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ABSTRACT OF

The Harveian Lecture

ON

SOME ASPECTS OF FORTY YEARS OF HOSPITAL EXPERIENCE.

Delivered before the Harveian Society of London

BY A. J. PEPPER, M.S. LOND., F.R.C.S. ENG.,
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MR. PRESIDENT AND GENTLEMEN,—Probably there are few here to-night who have been legally indentured, as I was, to serve an apprenticeship under a surgeon apothecary. By the terms of the instrument my 'prentice master undertook to teach me the art and mysteries of the profession. A clause in the agreement forbade me to frequent taverns or to contract a matrimonial alliance. The five years' apprenticeship counted as one year's attendance at a hospital. Before coming to London I had learned to compound and dispense medicines. It may seem incredible, but I attended my first case of midwifery without supervision. Happily for me, however, nature had completed the operation before my arrival, and my only duty was to express approval of what had been done. I had a large experience of vaccination—performed in those days with the lancet and septic lymph-coated ivory nibs. Though much time was wasted—or I should say occupied with congenial pursuits such as cricket and fishing—the apprentice learned self-reliance and promptitude in action, and built up a reserve of physical strength which served him in good stead when his time came to "walk the hospitals." It was during the above-mentioned period that I first saw the application of antiseptics. A compound fracture of the leg was dressed with lint soaked in a solution of carbolic acid. The result was a perfect success, but it must be remembered that pure country air as a medium was very different from the vitiated atmosphere of hospitals of those days as regards the healing of wounds.

It would be impossible in a single lecture to do more than glance at the changes—I might say advances—that have happened in the domain of surgery, both as pertains to scope and character during the last 40 years. My mind for the moment reverts to an address given by the late Sir John Erichsen at University College about 36 years ago. Emboldened by the contemplation of what had been accomplished up to that time, Sir John expressed his belief that surgery as an art had all but reached finality. Further evolution in this direction, he opined, would be an exhibition of operative audacity rather than of surgical triumph. I listened with awe at this *ex cathedrâ* pronouncement, wondering whence the inspiration came. But the "bane and antidote were both before me," for had not a greater than Erichsen written:—

> "For all experience is an arch, where through
> Gleams that untrodden world, whose margin fades
> For ever as we move."

At that time intraperitoneal surgery was in its infancy. The surgery of the cranium and its contents consisted of little more than the treatment of fractures, Pott's puffy tumour, and wounds of the middle meningeal artery. Basic meningitis, lateral sinus thrombosis, and tumour formation in the brain were left untouched.

It would be waste of time to make more than passing reference to the introduction of antisepsis, without which many operations now performed with perfect safety, or with a mere element of risk, the surgeon would hardly have dared to approach. It is matter of history how Lister, profiting by the researches of Pasteur and others, conceived the idea of putting into practice the germ theory of disease. One would have thought that the surgical world would have embraced the conception, but there has always been antagonism to new experience, and antiseptic surgery was assailed with bitter hostility. The late Sir William Savory embodied this in reports of the results of operations under the old conditions, and crystallised it, so to speak, in an address given before the British Medical Association. It is only just to say, however, that the opponents of antiseptics advocated methods of procedure which under a perfected technique have given us the "aseptic system." In the earlier days of the controversy it could be shown with truth that antiseptics often utterly failed to prevent infection of wounds, but this was due to the fault of the surgeon. I remember seeing a limb amputated under clouds of carbolic spray, a spray so caustic as to bleach the hands of the operator and imperil the life of the wounded tissues. So far so good. The surgeon, calm in the assurance that no floating germ could have survived the ordeal, wiped the stump with a soiled towel. He was innocently guilty, but failed for want of fuller knowledge and experience to prove the utility of the new method. As an instance of the revolt against Listerism I may cite the case of one who, wedded to the old order of things, remarked just before performing a brilliant operation, "Gentlemen, we will give the germs a chance."

I wish to call your attention to another phase of the germ theory of disease. It is seldom now that you find the word "idiopathic" in text-books, except with a view to condemning it. Here is an instance. Thomson and Miles in their "Manual of Surgery" (second edition, Vol. I., p. 120) write: "It is now believed that no such thing as an idiopathic variety of tetanus exists." Formerly many diseases the essential cause of which was unknown or not fully appreciated were described as diathetic, idiopathic, and so on. One of these diseases was suppurative meningitis, which most frequently attacks young children, and inasmuch as no local affection—e.g., otitis media—could be discovered to explain the origin it was thought to be a condition *sui generis*. Let me speak of the practical bearing of the question. A child died after vaccination, and a charge of manslaughter was preferred—unjustifiably in my opinion—on the ground that the death was the direct result of the vaccination. At the necropsy, which I conducted by order of the coroner, I found a sloughing condition of the arm and suppurative meningitis. Though firmly believing in the efficacy of vaccination as a preventive against small-pox, I was driven to the conclusion that the fatal meningitis had its origin in the septic sores on the arm, not in the vaccination *per se*. My judgment was challenged on the ground that "idiopathic suppurative meningitis" was a well-known disease in young children. A little later a second case came under my observation with the sequence—vaccination, septic infection of the arm, suppurative meningitis, and suppuration in many joints. Dr. Stevens, then Government inspector of vaccination, agreed with me that the arthritis and meningitis resulted from absorption of septic matter from the sores on the arm. In all I have met with about six such cases. They rarely occur, I believe, nowadays, because care is taken to protect vaccination wounds from infection. I said before what I say now, that every child should be vaccinated in spite of the possibility of a mishap arising from neglect of antiseptic or aseptic precautions.

One word on the relative merits of *antiseptic* and *aseptic* surgery. The latter, with its present perfected technique, is to my mind preferable to the former. Germicides may fail to effect their purpose, whilst they injure the living tissues and so prevent rapid healing of wounds. Moreover, some antiseptic agents when injected into deep-seated cavities, or are applied to wide areas, give rise to toxic symptoms. I have known cases of fatal poisoning from the use of very dilute solutions of perchloride of mercury.

Before reviewing the advances made in regional surgery I should like to deal shortly with therapeutic inoculation. The preamble of its usefulness has been amply proved. As the late Dr. Fothergill remarked of the onion, "it has a great future before it," but it is not, as its high priest has prophesied—playfully, I trust—going to banish the physician nor render unnecessary much of the surgeon's art. It has come to stay. Let it not wander from its true vocation. There are some diseases it can combat which no known drug can cure with like precision. The face of many a repining maiden, roseate from acne, has been rendered comely by its aid. It has withered the germ of boil and carbuncle. On surface tubercular lesions, notably those of the bladder, it acts like a charm. Should it partially fail in its attacks on the various forms of pus-producing organisms it renders them temporarily inert, and in this lies the assistance it gives to the surgeon, for a patient whose opsonic index has been raised is better fitted to undergo a severe operation. When the life-history of pathogenic organisms—the dynamics of a particle, as physicists term it—is more intimately known,

when the mutual behaviour of invader and invaded is more fully understood, let us hope we shall obtain results which Sir Almroth Wright even in his wildest dreams never pictured. Meanwhile, let the mere physician and surgeon take courage. Opsonins will not replace the catheter in cases of retention, renovate a lacerated nerve, close a bleeding artery, fix the fragments of a broken bone, relieve a diner out from the fruits of his folly, nor bring solace to a tired heart. I do not wish it to be inferred that therapeutic inoculation should supplant surgical treatment, even where *primâ facie* its employment appears rational. Take, for example, tubercular disease. Cases where the mischief is associated with caseation and extensive induration, where complicated and important structures are involved such as bones and joints, and where large abscesses exist ought not to be surrendered to the opsonists. It should also be borne in mind that it does not follow because improvement in the patient's condition coincides with the raising of the index that a cure will be effected. Whilst a halt is called the march is not necessarily at an end.

I now turn to the consideration of some surgical diseases and injuries which at the beginning of my hospital career were an almost negligible quantity from the standpoint of operative treatment, and first I will take *mastoid disease* and its complications. At the time I migrated to St. Mary's I had seen only one case of mastoiditis operated upon, and in that by mischance the trephine placed too far back found its way into the lateral sinus. I can picture now the appalling stream of blood and the hurried closure of the scene. During my house surgeoncy I was called away to the deathbed of a relative. The end came from intracrancial inflammation consecutive to middle-ear disease contracted 20 years before. On my return to duty one of the first cases I saw was that of a girl affected with facial palsy, and unconscious from meningitis. She, too, succumbed when a timely operation might have saved her. It was this tragic experience that led me to study closely the pathology of otitis media and its sequelæ. At the present day it seems strange that for so long only empirical and totally inadequate measures were employed to meet the situation. It was not the fear of a septic operation wound, for sepsis already existed. It was the comparative ignorance of pathology, and of the guidance it gave to the surgeon. Partly, no doubt, it was the innate objection to the introduction of new methods, perhaps more rife then than now.

Surgery has become so specialised—there is little left to be appropriated—that a general surgeon feels somewhat diffident in entering even a corner of the field which was once within his domain, but I know I can count on your indulgence whilst I trespass for a few moments. My experience of mastoid disease has been somewhat extensive, connected as I have been for many years with a general and special (fever) hospital. To the former come mostly chronic cases of ear disease—the wreckage of past storms—with temporary exacerbation of symptoms, or the beginning of more serious trouble. In the latter one meets with the first outbursts of acute infective mastoiditis. It is fortunate, in a sense, if these cases end in suppuration, for then an operation becomes imperative, which I am convinced is the means of preventing much after suffering, and not seldom death itself. Many of the unoperated cases supposed to be cured are only relieved. The anatomy of the parts is so intricate that exit for the discharge by the Eustachian tube, or through a perforation in the drum, or bone plate, is inadequate. There lingers unnoticed or unheeded a vestige of the disease which at any time may declare itself with renewed activity. Otitis media rarely if ever spares the mastoid, and for that reason I think every case of chronic discharge from the tympanum would be appropriately treated by opening up the bone.

Scarlet fever is the most common cause of acute mastoiditis. The complication may declare itself at almost any stage, but it is most frequent, perhaps, when the specific fever is on the wane. I know of no other acute specific malady which equals influenza as regards the rapidity of development of middle-ear and mastoid inflammation. The last operation I performed was for acute otitis and suppuration in the antrum of influenzal origin. The symptoms had existed for less than 36 hours.

The complications of mastoiditis—meningitis, lateral sinus thrombosis, and extra-dural, cerebral, and cerebellar abscesses—can be diagnosed with tolerable ease when they exist separately. Frequently, however, the above conditions are found in combination, whilst they may to some extent be masked by intense toxæmia. Tenderness on pressure and pain elicited by sharp percussion are often useful aids to the localisation of an abscess in the brain. As is well known, abscesses in the brain secondary to mastoiditis often lie at some distance from the surface, and when small may elude detection. I have met with cases in which an exploring needle or trocar has passed through such an abscess without revealing its presence. Again, the pressure on the tentorium from cerebral abscess may cause suspicion that the cerebellum is the seat of the mischief. In cerebellar abscess it is not uncommon to find incoördinated movements—often very slight—on the same side as the lesion, a very important point when one has to deal with a patient who has discharge of pus from both ears, and when faculty consciousness is partially annulled. Fixed dilatation of the pupil on the affected side is not of itself of much value in diagnosis. I have met with it in mastoiditis uncomplicated by intracranial mischief.

As regards operative interference for mastoiditis, the instruments employed are chisel, gouge, and burr. The trephine is out of date. Many years ago I had to deal with a scarlatinal patient suffering from antral abscess. The body temperature was 106° F., but beyond this there was very little general disturbance. By accident I opened the extradural space with a trephine and there unsuspected was a collection of pus. Before closing this notice I may mention another case. A man was operated upon for cerebellar abscess, with marked relief. Shortly afterwards he developed a temporo-sphenoidal abscess. A fine probe could be passed into it from the mastoid antrum. He made a good recovery.

I feel I may incur your displeasure, if not your derision, by mentioning the very word *appendicitis*. You will say, perhaps, that the subject has been worn threadbare, and there is nothing further of interest to be written about it. There is still, however, considerable divergence of opinion as to the expediency of operative treatment in certain cases, and quite lately my old friend Mr. C. B. Keetley has advocated a particular procedure—transplantation. For his views I entertain profound respect, but I am not converted by his reasoning. There seems to be with some a lingering esteem for a body which, in my opinion, merits only contempt—I mean the appendix. Animals with enormous appendices and the hare with a duplicate supply might in good faith plead for its preservation. In man, by a process of natural selection, the appendix has shrunk to a vestigial remnant. I believe the theory of its use either for open or internal secretion, is, to say the least, nebulous. Now I trust our friends the physicians will not think me disloyal to them if I subscribe in a general sense to the dictum of a French surgeon: "The medical treatment of appendicitis is the simulacrum of treatment." Patients suffering from appendicitis are like birds of passage. They dwell for a period in medical wards, but sooner or later seek the brighter clime of the operating theatre. I freely admit that the quiescent state is the best for appendicectomy, and where the patient is under constant and capable supervision the time for operation may be postponed. But that only touches the fringe of the question. A person who has once had an attack is like one walking near the brink of a precipice. He may never fall over; he may go at any moment. The argument against operation, or in favour of delaying it—viz., that suppuration occurs in only about 8 per cent. of the cases—is weakened by the fact that suppuration, even when successfully treated, does not confer immunity against further trouble, that it does not cover the cases of acute perforation, nor take into account the question of extensive adhesions and consecutive hernial protrusion. I have never regretted operating. I have often mourned over neglected opportunities.

Is appendicitis more common than it was 30 or 40 years ago? I believe it is, and, further, that dietetic errors are largely responsible for the increase. There is a great deal too much use of food preservatives and still more of patent foods. The simple life has been sacrificed to artificially prepared peptones. The stomach and bowels have been robbed of their natural duty. I know that formerly many cases classed under the terms "typhlitis," "perityphlitis," and

"peritonitis" were primarily and essentially cases of appendicitis. But allowing that, when we consider the extreme frequency of the incidence of appendicitis at the present day, we are driven to the conclusion that it was not simply a question of nomenclature. During my student days the only instance of appendicitis I remember as having been demonstrated was one in which portal embolism had resulted from impaction of the operculum of a whelk in the appendix, and that was presented as an illustration only of pyæmic abscesses in the liver.

It is interesting to contemplate with what ingenuity man has sought out many inventions to justify his principles and actions. Let me cite an example. 35 years ago the surgeon treated *intussusception* of the bowel by injections, by inflation, and by the postural method; the physician almost as successfully by opium and poultices. Operation was said to be negatived on the following grounds: (1) that the bowel might right itself; (2) that the invaginated portion might slough off and recovery ensue; (3) that an operation might fail in its primary object; and (4) that opening of the abdomen and manipulating the bowel would be fatal. Gentlemen, the last count in the indictment was the really valid one. In those times the fatality attending laparotomy was enormous, for save in a few hands antiseptic surgery was a delusion and a snare. I have given you an instance of its faulty practice. At a necropsy on a case of intussusception I remember the late Sir William Jenner—who once told me the notes I had taken were not worth the paper they were written on—being asked by a student, "Would you have operated?" The answer came quickly, emphatically, "No." To-day it would be just as certainly "Yes."

I have seen the initiation and growth of the practice of treating *diseases of the biliary passages* by operation. It is not my purpose here to discuss in detail the conditions that may be ameliorated or removed by such procedure. To drain a septic gall-bladder; to remove a stone impacted in the common duct; or when that duct is obstructed beyond remedy to make a short circuit, is not only expedient—it is imperative. But I would put in a plea in favour of operative treatment in all uncomplicated cases of gall-stones. To justify that plea it is necessary to show a good credit balance. The only objections that I know of—leaving aside the wishes and will of the patient—are: (1) the danger to life attending the operation, and (2) the possible inconvenience incidental to biliary fistula. Under aseptic conditions and efficient drainage there is little more than an element of risk, that attending the induction of anæsthesia almost covering it. What is there on the other side of the account? I admit that many persons carry gall-stones to the end of their lives without a suspicion of their existence, and that many others suffer only slight and temporary inconvenience. But what of the by no means small residuum? In any case one or more of the following conditions may obtain: (1) impaction in the common duct; (2) ulceration into the peritoneal cavity or into the bowel—the former probably fatal, the latter possibly so from obstruction; (3) circumscribed abscess; (4) septic cholecystitis and hepatitis; and (5) cancer. The last two are by no means infrequent. Quite recently I operated upon two jaundiced patients and found malignant disease of the gall-bladder associated with, and probably the result of, gall-stones. I am contending for the principle which I think should guide the practitioner when advising his patient. I do not believe that all the waters of Carlsbad could soften, disintegrate, and finally remove a gall-stone of such dimensions that its passage through the ducts would not be fraught with danger.

What a revolution has occurred during the lifetime of many of us in the *treatment of fractures* and injuries to joints. In place of the long maintained immobility in splints we resort to massage and movements at the first opportunity compatible with safety. The after-treatment of a Pott's fracture, which occupied months, and even then often left the patient with a stiff and painful ankle, does not cover as many weeks. We look upon atrophied muscles, contracted ligaments, and articular adhesions as a reproach to surgery. I recall to mind a case of traumatic synovitis of the knee. The limb was kept on a splint for so long that the joint became stiff, so stiff, in fact, that the force I exerted to restore movement snapped the patella in half. I can idealise the report even now, though it is more than 30 years since it sounded. The plan of *wiring* and *screwing* refractory fragments enables us to resort to early movement and so hasten union. I cannot allow that the majority of fractures should be fixed with screw or wire. When it is not necessary it is not wise, especially when the fracture is simple, to run the risk of infection of an operation wound. On the other hand, let us consider the possibilities opened up by aseptic surgery to the treatment of fractures. The "proper method" of dealing with fracture of the surgical neck of the humerus with dislocation of the head of the bone was in the old days, as now, a disputed point. But whereas the surgeon of to-day can, if he thinks fit, resort to a cutting operation with comparative safety, the surgeon of 30 years ago was practically debarred from doing it by fear of disaster from septic inflammation. I was taught to proceed as follows:—If practicable, reduce the dislocation and then set the fracture. If not, drive the upper end of the lower fragment into the glenoid fossa to form a new joint, and let the head of the bone take care of itself. The alternative methods—to fix the fragments by splinting and then attempt reduction, or to leave the dislocation alone until the fracture had united, received little support. They sounded feasible but could rarely be put into practice. I give you the name of the late Mr. Heath as my authority. That distinguished surgeon, recognising how unsatisfactory the result of the injury might be, always warned his pupils to tell the patient plainly what might happen. I think it may safely be said that present-day experience compares favourably with the past.

A simple and safe operation now almost in daily practice—I refer to *excision of varicose veins*—used to be highly dangerous. The late Mr. John Marshall was one of the first surgeons to adopt the method. Of his first three patients operated upon one died from pyæmia. The various ways of dealing with varicocele were all painful; some were inefficient and others dangerous. The surgeon feared to make a free incision and yet had the temerity to risk sepsis by making punctures.

In the early days of my professional career the operative treatment of *aneurysm*, which then occupied a prominent position in surgery, was less successful than now. It was customary to use non-sterilised silk ligatures and to leave them hanging out of the wound until cast off by inflammatory softening of the encircled portion of artery. No wonder secondary hæmorrhage was to be feared, hæmorrhage difficult to control, for it was practically hopeless to deal with the vessel in the wound on account of the unhealthy condition of the parts and the enhanced freedom of the collateral circulation. In the case of a limb either amputation or ligature of the artery higher up was resorted to. When ligation was performed for the cure of pathological aneurysm there were three conditions underlying secondary hæmorrhage—disease of the vessel, unnecessary damage to the coats of the artery, and sepsis. The two latter can now be eliminated. With the introduction of reputed sterilised catgut ligatures it was hoped that much had been achieved. But owing either to sepsis or faulty preparation of the ligature accidents were not rare. I remember two cases of ligature of the femoral artery in the continuity for popliteal aneurysm in which the ligature either became untied or softened too soon. In one an aneurysm formed at the seat of ligature. The external iliac had to be tied and the patient died. In the other no harm was done, but the artery had to be ligatured again in Hunter's canal. Formerly it was the purpose of the surgeon to cut through with the ligature the middle and internal coats of the artery. This, as shown by the researches of Mr. C. A. Ballance, is unnecessary and harmful. So far as my experience goes pathological aneurysms are less common than they were. May it not be that arteries are saved from disease by the improved treatment of syphilis?

I will briefly relate two cases of ligature of arteries in my own practice. About 20 years ago a powerful navvy came to the hospital with a popliteal aneurysm. Compression having failed I tied the femoral in Scarpa's triangle. The patient left cured. He at once resumed heavy work, lifting baulks of timber. Pulsation returned in the upper part of the aneurysm. I ligatured the external iliac. Death ensued from acute septicæmia. My whole procedure was faulty. Compression need not have been done. The second operation wound ought not to have become septic. The aneurysm, well circumscribed and of moderate size, should have been excised. The second case was a remarkable one. A middle-aged man was struck on the back of the head. A few months later a

pulsating swelling appeared at the seat of injury. Compression of the occipital arteries abolished the pulsation and caused the tumour to shrink. Lord Lister, Sir William Gowers and the late Sir James Paget, Sir John Erichsen, and Mr. George Lawson were consulted. With one notable exception their opinion was unanimous that the disease was pulsating sarcoma of the cranium. I ligatured both occipital arteries, with the result that pulsation ceased and a cure seemed assured. Mr. Lawson remarked to the patient, "You will get well, but I never thought you would." After a considerable interval a similar swelling appeared in another part of the cranium. Then followed spontaneous fracture of the sternum and some ribs. Death resulted from paraplegia caused by the pressure of a tumour of the vertebræ. There was no aneurysm; it was a case of multiple sarcoma.

[Mr. Pepper concluded by pointing out that he had necessarily confined his remarks to certain important and unconnected departments of surgery, and had made no attempt to review surgical progress generally.]

THREE CASES OF SPORADIC CRETINISM.[1]

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CRETINISM is fortunately an uncommon disease in England, and therefore I thought it would be worth while to bring to your notice three of the cases which have come under my own observation. One of them illustrates the results of the disease after four and a half years' duration, commencing at the age of 18 months, and by comparison with another younger member of the family we can appreciate the almost entire arrest of growth and its renewal at a greater rate than normal under treatment. The other two cases are brother and sister, and illustrate the disease as seen in the adult after many years' duration, one of them being a goitrous cretin—a form of the malady rarely seen in this country.

CASE 1.—The patient, a girl, aged six years, was sent to me at the Newcastle Royal Infirmary by Dr. L. McNabb

FIG. 1.

On the spectator's right the patient, aged 6 years (Case 1), height 28½ inches; on the left her healthy brother, aged 2 years, height 30 inches.

of South Shields. She was apparently quite a normal child when born at full term and nothing unusual was noticed by her mother until she was 18 months old, when she ceased to grow. At the same time she began to sleep badly and became ill-tempered. The face was said always to have been rather swollen and the feet and hands "blue." The two other children in the family were healthy. When examined at the age of six the height was 28½ inches and she had the typical aspect of a cretin. (Fig. 1.) The face was full and rounded, the cheeks were full and puffy, the eyes appeared to be widely separated, the bridge of the nose was depressed, and the nostrils were directed forwards. There was a faint flush on each cheek, the mouth was partly open, the lower lip being everted and the mucous membrane rather pale. The upper teeth were nearly all carious and the lower small and ill developed. The tongue was enlarged. The hair on the top of the head was somewhat scanty, while the anterior fontanelle was of about the size of a sixpenny-piece. The abdomen was prominent and there was marked lordosis. The supra-clavicular pads were not well marked. The front of the trachea could be easily felt, but no trace of the thyroid gland could be made out. The hands were short, broad, and swollen, and felt cold to the touch. The nails were fairly well developed. Both tibiæ were markedly curved and in standing the feet were widely separated. The subcutaneous tissue generally was somewhat swollen with the solid œdema and the skin was rough and cold. The mental development was very backward,

FIG. 2.

The patient in Case 2, aged 28 years, height 53 inches.

as she could only pronounce a few monosyllabic words and gave no warning when she wished either to defæcate or micturate. She made no attempt to walk until her younger brother, aged two years, did so, when she began to imitate him. This brother is shown beside her in Fig. 1, his height being 30 inches, so that although he was only one-third of his sister's age he already was 1½ inches taller. During the following six months thyroid treatment was carried out at home under Dr. McNabb's supervision, and at the end of this time the height had increased by 2½ inches from 28½ to 30¾ inches in six months. During the same interval the normal brother had grown to 31¼ inches, an increase of 1¼ inches, so that she had actually grown an inch more than her brother in the same period of time. The anterior fontanelle had closed, the swelling of the face had greatly

[1] A paper read at the annual meeting of the Association of Physicians held in Dublin on June 3rd and 4th, 1909.

diminished, and the lips were normal in appearance. The skin felt soft and the hands and feet were no longer cold.

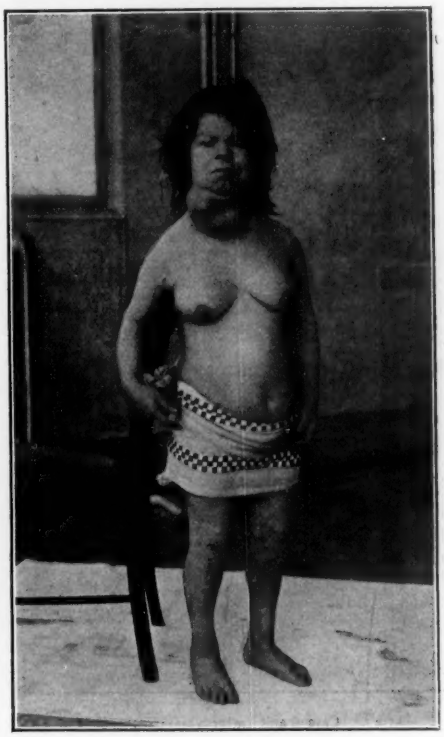
For the opportunity of seeing and treating the two following cases I am indebted to Dr. G. Ashton, under whose care they had come in the home-patient department of the Manchester Royal Infirmary.

The father and mother of these two cretins are both healthy normal individuals. There have been ten children born, the other eight being fairly healthy. No history of goitre or cretinism in the family is obtainable.

CASE 2.—The elder brother (Fig. 2) is now 28 years old and 53 inches high. The symptoms of cretinism, as far as can be ascertained, have been present since childhood, so that on admission to the Manchester Royal Infirmary he presented the typical aspect of an adult cretin. The forehead was narrow, measuring 4¾ inches across. The maximum transverse diameter of the head was 5⅞ inches and the occipito-frontal measurement 7 inches. The hair was fairly abundant, stiff and coarse in structure. The eyebrows and eyelashes were scanty and only a little downy hair was growing on the face. The upper eyelids were rather swollen and slightly overhanging, and the lower were also thickened and wrinkled. The nose was as broad as it was long, measuring 1¾ inches in either direction, and was depressed at the bridge, while the nostrils were widely dilated. The lips were markedly thickened, especially the lower, which was everted and drooping. The mouth was large and the mucous membrane of the lips was pale. There was a hairy mole on the chin. The ears were large. On palpating the trachea the rings could be easily made out, but no thyroid gland could be felt in the normal situation. On request the tongue was very slowly protruded and withdrawn; it was broad and swollen. The teeth were fairly good. The hands were short and broad. The arms were short, the humerus measuring 8 inches in length and the ulna 9¼ inches. The legs were short and thick and the knee-joints appeared to be relatively large. The femur from the top of the great trochanter to the external condyle was 13 inches in length and the tibia 11 inches. He walked slowly, with the legs widely separated. The skin of the legs was particularly dry and covered with crusts of dried epidermis. There was a good deal of mottled pigmentation of the skin about the knees, evidently due to sitting before a fire. The temperature varied from 97° to 98·2° F. The genital organs were normally developed. He was placid and good-tempered, but showed very slight mental development. The habits were clean and he was fond of smoking cigarettes and much appreciated the receipt of money with which to purchase them. He had spent nearly all his time in the house, as he was "mobbed" if he appeared in the street by day, and his father only took him out when it was dark. Dr. G. E. Loveday examined the blood and found the red corpuscles were 4,680,000, the white corpuscles 14,000 per cubic millimetre, the hæmoglobin 94 per cent., and the colour index therefore 1. The red corpuscles were normal in size and shape and no nucleated corpuscles were found. He was in the Manchester Royal Infirmary from Feb. 22nd until May 12th, and was treated with one daily dose of liquor thyroidei gradually increased from 2 up to 15 minims; before leaving this was changed to three, and later to four, 5-grain thyroid tablets a day. While he was in the hospital the subcutaneous swelling gradually disappeared and the skin became softer. The height did not increase; in fact, it was rather less when he was discharged, being 52¼ inches. It was, however, rather difficult to obtain an exact measurement. His talking improved, and he learned some new words.

CASE 3.—This case, aged 25 years, is a sister of the second (Fig. 3). She has also been under observation in the home-patient department of the Manchester Royal Infirmary for about two years. Her mother stated she was of average size at birth, but has always been dull and was very late in learning to walk. Like her brother, she has spent nearly the whole of her life in-doors. She would lie still for hours doing nothing and seldom got up before noon, and on cold days she would remain in bed all day. She has always been very sensitive to cold, and would sit close to the fire even on warm days. She never suffered from any infectious disease beyond a common cold. With the exception of four months she has menstruated regularly since she was 15, but the flow had been scanty. The height was only 48½ inches. She had the typical aspect of a cretin, though to a less extent than her brother. The face was swollen by the subcutaneous œdema, the bridge of the nose was depressed, while the nostrils were directed forwards; the length and breadth of the nose each measured 1½ inches. The longitudinal diameter of the head from the occipital protuberance to the root of the nose measured 7⅛ inches and the maximum transverse diameter 5¼ inches. Owing to the swelling of the upper eyelids the eyebrows were elevated in order to keep the eyes open. The hair was abundant and coarse and there were several small warts on the scalp, one, of the size of a pea, being on the left, and another, of the size of a threepenny-piece, on the right. The eyebrows were scanty but the eyelashes were normal. The lips and tongue were swollen and the mouth was large. The skin was opaque and "chalky" in colour. There was a large lobulated goitre in the neck, the right lobe of the thyroid containing two adenomata, the maximum diameter of one being 4 inches and of the other 2 inches. The isthmus contained an adenoma of

FIG. 3.



The patient in Case 3, aged 25 years, height 48½ inches.

the size of a pigeon's egg and there was another small one in the left lobe, the total circumference of the neck over the goitre being 18 inches. The breasts were well developed but the pubic and axillary hair was scanty. The hands were short and broad and the legs short. The humerus measured 7½ inches in length, the radius 6½ inches, and the ulna 7¼ inches. The skin was dry and there was a general myxœdematous swelling all over the body. The pulse was 90. An examination of the blood by Dr. Loveday showed the presence of 4,453,000 red blood corpuscles per cubic millimetre and 80 per cent. of hæmoglobin, giving an index of 0·9. The red corpuscles were of normal size and shape. The urine was normal. She was treated by one daily dose of liquor thyroidei, gradually increased from two drops up to ♏ xv., and later, before going home, by thyroid tablets instead. After six weeks' treatment the circumference of the neck was 15 inches, a diminution of 3 inches, and the goitre was much smaller in size, though the

adenomata stood out more distinctly owing to great diminution in the intervening portions of the goitre. The largest adenoma appeared to have diminished somewhat in size, as its diameter was 3¼ inches, while that of another was 2½ inches, or rather more than it was at first. The myxœdematous swelling was notably diminished in all situations. The height had increased by an inch, the temperature had reached the normal level, and the patient was much more lively. About three weeks later the circumference of the neck was 14 inches, a total diminution of 4 inches. The two adenomata previously mentioned had notably diminished in size so that they only measured 2 inches and 1 inch in diameter respectively. The mental condition greatly improved and many new words and sentences were learned while she was in the hospital. No further increase in height took place. Fig. 4, for which I

FIG. 4.

Case 2 and 3 after treatment.

am indebted to Mr. T. B. Eames, my house physician, shows the improvement in appearance in these cases as a result of treatment.

The two adult cases are good examples of the dire results of cretinism when untreated, and thus emphasise the great importance of the early recognition and treatment of the malady. It is to be hoped that one good result of the systematic medical inspection of school children will be that all cases of cretinism which have escaped recognition before the school age will now be diagnosed and adequately treated, so that in the future we shall not see these advanced cases. The development of the genital organs in the man and regularity of menstruation associated with good mammary development in the woman indicate that they are not examples of the severest grade of cretinism, in which menstruation is in abeyance and the mammary glands are undeveloped, as in a case previously recorded by me. The improvement in these cases is as much as can be expected in the time when the disease is of such long duration.

The most remarkable feature was the rapid diminution in the size of the goitre, to such an extent that the circumference of the neck decreased by four inches. The decrease in size was not only in the parenchymatous part of the goitre, but the adenomata diminished to one-half of their original size. Although we are familiar with the rapid decrease in size in parenchymatous goitre in young adults under the influence of thyroid treatment, I have not before, with one possible exception, seen this take place in adenomata of the thyroid. The result in this case, however, indicates that the treatment is worthy of a more extended trial in cases of adenomatous goitre, as it is possible that in some it may effect a sufficient reduction in size to obviate the necessity for removal by operation.

Manchester.

RABIES, WITH NOTES OF THIRTY CASES.

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IN Egypt sanitary measures to combat rabies are supplemented by the administration of Pasteur's prophylactic injections to all persons bitten by animals prone to the disease. Native patients while undergoing antirabic treatment are usually inmates of the Government hospital, and afterwards, for one year, they are placed under special observation by their local medical authority, which periodically reports their condition. From October, 1907, to May, 1909, 30 cases of human rabies occurred: 17 developed in the course, or at the end of treatment, 10 after leaving, and 3 before entering hospital.

Jackals, dogs, foxes, and their congeners in Egypt form one large hybrid family, the members of which are exposed only to mutual infection, so that the virulence of the rabies organism among them must be fairly uniform, and the relative fatality of their several attacks be dependent mainly upon their respective strength and ferocity. Exceptional potency probably exists, but we found very little evidence of it in experimental inoculation of rabbits. Of our cases, 21 were attributed to bites of dogs, 7 of wolves,[1] and 2 of animals who attacked in the night and escaped unidentified. Of the 27 animals involved, only 16 were traced, and of these none were captured alive. 13 carcasses were received for examination, but all were putrid except 3. A portion of each brain was introduced intracranially into several rabbits; only two (Experiments 157, 158, and 234, 235) caused rabies, the others septicæmia. Two rabid victims were considered as conclusive evidence of the existence of the disease in each of four untraced animals, but in the remaining 21 animals the diagnosis of rabies rested upon a single reproduction where the possibility of infection previous to the incriminated attack, although highly improbable, could not be positively excluded.

With the exception of two non-fatal man-to-man inoculations, animal bites were the origin of all our rabies infections. Such accidents were usually too complex to have any experimental value, but in 11 series of cases common sources of infection were present. In each group of victims of the same animal, wounds of similar severity upon naked sites might be considered to represent approximately equal doses of saliva, although the last wounds probably contained less than the first and those which bled than those which did not; equal amounts of the same saliva represented approximately equal numbers of organisms. The organismal virulence was uniform, and the date of attack and the details of the Pasteur treatment were usually the same for every member of a series. The wounds ranged from skin abrasions to those involving destruction of muscle and bone. Seven degrees of

[1] Note by Mr. S. S. Flower, Director of Zoological Gardens, Giza, Egypt: "Jackal *Canis lupaster*.—The so-called 'Egyptian wolf' is intermediate in size between the real wolves of northern countries and the jackals of other parts of Africa and Asia. It appears to be numerous throughout Lower and Middle Egypt, and is said to be destructive to the sugar-cane crop. Specimens in captivity greedily eat dates, grapes, and cherries when they get the opportunity of doing so. This species probably crosses with the local pariah dogs; individual animals may be met with that are difficult to assign to jackal or dog, and are possibly of mixed parentage."

severity were distinguished[2]; multiple wounds were classified according to the most severe; multiplicity of similar wounds at the same site could only increase the extent of the infected area, so multiple were considered as extensive wounds with which they were raised to the next degree above an average-sized single wound of corresponding depth; but as "multiple" in our cases comprised from two to eight, and as the minimum which justified the term "extensive" was ill-defined, the classification afforded only a rough index of the relative severity of the various wounds.

The following brief notes of each series show the influence of various factors upon the result of inoculation:—

First series.—No. 1202, boy, aged 15 years, bitten to the third degree on the face, and third, also, on the hand; died, incubation 41 days; abscesses at injection sites. No. 1203, man, aged 25 years, bitten on the forehead to the second and on the forearm to the fourth degree; died, incubation 46 days. Each was infected under somewhat similar conditions of dose and site, and had approximately the same incubation; both lived more than 40 days after fairly severe infection, so they must have possessed, at least, average resistance. Although not impossible, it was extremely unlikely that two cases in which resistance could not be enhanced to immunity should simultaneously occur, so the conclusion seems inevitable that the Pasteur treatment here completely failed; the development of abscesses from the injections might account for the five days earlier evolution in No. 1202.

Second series.—No. 1210, boy, aged 13 years; wound of the second degree on his naked foot; survived. No. 1211, brother, aged 12 years; wound of the fifth degree on the face and of second on his naked forearm; died, incubation 22 days. The inoculation in the first was either less than his natural resistance, or from its site and amount powerless to reproduce the disease within the period in which the treatment could not ensure safety. The second obviously received the more massive infection, which alone might adequately explain his rapid death; at least, there is here no proof of any causal connexion between the site on the face and the shortness of the incubation.

Third series.—No. 1267, boy, aged 10 years, bitten to the fifth degree on his naked finger; died, incubation 33 days. No. 1268, boy, aged 11 years, bitten through his clothes to the same degree on the forearm; survived. Here, only two factors, the dose and the site, varied; the wounds were of approximately equal severity, but that of the second represented the lesser dose, for it was inflicted by teeth previously cleansed by passing through clothes; the naked hand received a fatal infection, the clothed forearm did not, but there was no evidence of any lethality peculiar to the hand.

Fourth series.—No. 1356, youth, aged 19 years, bitten to the fifth degree on the face; died, incubation 18 days. No. 1357, boy, aged 12 years, bitten through his clothes on the forearm to the second degree; survived. All factors favoured a massive dose in the former and a small dose in the latter. Again, the face was the lethal site, but the extent of the wound was in accord with the fatal infection, and probably also with the shortness of the incubation, so no conclusions could be made regarding the influence of the site.

Fifth series.—No. 1473, boy, aged 12 years, bitten to the fourth degree on the face; died, incubation 17 days. No. 1474, boy, aged eight years, bitten to the third degree on the naked hand; survived. The difference in dose again obscured the influence of the respective sites, but the face was associated with the graver and fatal wound, and the disease had a short incubation.

Sixth series.—No. 1096, man, aged 23 years, bitten to the fifth degree on the face; died, incubation 23 days. No. 1097, man, aged 30 years, bitten on the leg, through his clothes, to the fifth degree; discharged well, and could not afterwards be traced. No. 1098, girl, aged six years, wound of the fifth degree on the face; died, incubation 105 days. Of the three wounds, two were on the face and proved fatal. The child survived thrice as long as the man, yet in both the disease evolved under identical conditions of dose and site. The child's wound sloughed; the rabies infection may have been uninfluenced or mechanically diminished by the process, but it may also have been reinforced by decreasing the natural resistance to the disease or retarding or preventing the immunisation by the Pasteur treatment; intensive methods would not have affected the result for there was no urgency, and the routine method entirely failed unless the remarkable prolongation of the incubation to 105 days was evidence of an acquired resistance. The man was subjected to a slightly intensive course and died at its conclusion; the treatment may here have hastened death, but it is unlikely that an influence which in the child either prolonged or did not affect the incubation should, when intensified in the man, shorten it. In this series, therefore, the man seemed to be much more susceptible than the child.

Seventh series.—No. 1186, boy, bitten on the arm, through his clothes, to the second degree; survived. No. 1187, boy, aged 14 years, bitten on the cheek to the third degree; survived. No. 1188, boy, aged 10 years, bitten on the face to the fifth degree; died, incubation 34 days. The features of this series were the survival of the second—a face-bite—and the death of the third when presumably on the borders of safety. The dog's teeth were cleansed by the clothes of No. 1186 who was first attacked, so that the others received infections disproportional to their injuries. The second case disproved in his person any special lethality of face inoculations. The same treatment was used for all three and failed in the third, although the incubation was 34 days.

Eighth series.—No. 1259, man, aged 20 years; cauterised wound of the fifth degree on the face; died, incubation 44 days. No. 1260, man, aged 55 years, bitten through his clothes; cauterised wound of the fourth degree on the leg; died, incubation 81 days. No. 1261, woman, aged 60 years, bitten through her clothes; cauterised wound of the fifth degree on the forearm; fate unknown. Cauterisation by heat was not used till the third day after infection and the result seemed to show it was then useless. The obvious difference in the factors of dosage probably accounted for the difference in the incubation. The Pasteur treatment was not begun till the fourth day, but as the incubation in both was prolonged the failure of the treatment to ensure immunity was absolute and inexplicable.

Ninth series.—No. 1574, man, aged 70 years, bitten to the fifth degree on the wrist and to the same degree on the face; died, incubation 26 days. No. 1575, man, aged 40 years, bitten to the sixth degree on the hand; survived. No. 1601, boy, aged 12 years, nasal cartilages, both lips, the greater part of both cheeks, and the upper central incisors bitten off; also six wounds of the fourth degree on the scalp and ear and 14 of the third degree on the forearm. The boy was first attacked, the old man last. The men began Pasteur treatment within 24 hours of the accident; the boy three weeks later. The death of the first, although bitten to a less degree than the second, might indicate a greater lethality for bites on the face than on the hand, but, although from the clinical aspect and from experimental inoculation of rabbits with the patient's brain death was undoubtedly due to rabies, yet the patient suffered from pyonephrosis, which might have lowered his natural resistance and hastened his end. The boy's injuries may have conveyed an exaggerated impression of the dose he received, for a considerable part of the infected tissue of his face was torn off in the attack, but the wounds on his scalp, ears, and arm must have represented an incomparably larger dose than in any other of our fatal cases; the only possible explanation of his survival is that he was naturally immune to rabies.

Tenth series.—No. 1249, boy, aged 15 years, bitten to the seventh degree on the face; died, incubation 19 days. No. 1250, man, aged 20 years, bitten to the sixth degree on the face; died, incubation 16 days. No. 1251, man, aged 40 years, bitten to the third degree on the naked foot; died from dysentery 50 days after the accident. No. 1252, man, aged 25 years, bitten through his clothes on the knee to the second degree; survived. No. 1253, man, bitten through his clothes on the thigh to the third degree; survived. The last two were bitten 24 hours after the others. All began Pasteur treatment within 48 hours, except No. 1253, who delayed till the third day. The most severely injured were the two who were attacked on the face, and they alone died. The remarkable

[2] *Classification of wounds.*—1. Single and multiple abrasions of the superficial layers of the skin; no case occurred in which the wounds belonged solely to this category. 2. Lacerations, usually linear, penetrating the skin but not underlying muscles (Case No. 21). 3. Multiple and extensive wounds of the second degree (Cases No. 8, 26, and 28). 4. Punctured and lacerated wounds of muscles (Cases No. 3, 9, 14, 17, 19, 20, and 30). 5. Multiple and extensive wounds of the fourth degree (Cases No. 2, 6, 7, 10, 13, 15, and 16). 6. Wounds involving loss or destruction of muscle, cartilage, or bone (Cases No. 1, 4, 12, 23, and 25). 7. Multiple and extensive wounds of the sixth degree (Cases 5, 11, 27, and 29).

shortness of the incubation might have been due to abnormal organismal virulence or to the site of infection; it seems unlikely that both of those bitten on the face should possess exalted susceptibility and a smaller dose killed the man before the boy. The survival of the other three was probably determined by the trivial extent of their injuries, but the site of infection may also have exerted some influence.

Eleventh series.—No. 1305, man, aged 20 years, bitten to the fifth degree on the hand and to the third on the forearm and shoulder; died, incubation 39 days. No. 1306, boy, aged 15 years, bitten to the fifth degree on the hand and to the second in the face; survived. No. 1307, man, aged 22 years, bitten to the third degree on the hand and to the second on the forearm and leg; survived. No. 1308, man, aged 80 years, bitten to the third degree on the forearm and foot; reported as dying from old age 26 days after infection. The first received the most massive dose; his antirabic injections were begun within 24 hours of the accident, and failed, although ample time was afforded for the development of immunity. The incubation was relatively long and the inoculation was on a limb, but the organism was probably of feeble virulence, for the second, although wounded to a lesser degree than the first, was still severely injured, and yet he survived in spite of a face infection; the third, who was much less gravely infected, also lived.

The existence of variation in human resistance to rabies was suggested by the sixth and tenth and proved by the ninth series, but the causal factors of this variation were not clearly indicated. Sex was not observed to influence it; social customs and mode of dress shielded Egyptian women from attack, so animal bites among them were infrequent and rabies rare; only four females died and all were children. In the sixth series a girl showed about five times greater resistance than a man, but there was no proof that this was a sexual attribute; and the number of deaths under 11 years was the same in both sexes. As regards age, in the first series the resistance of 15 years seemed to equal that of 25; in the tenth 20 seemed more susceptible than 15; in the sixth 23 succumbed nearly five times more quickly than 6, and in the ninth 12 was immune, 40 survived, and 70 died from rabies complicated by pyonephrosis. At or under the age of 10 years we had eight deaths from rabies, between 10 and 12 years 20 deaths, 20 and 30 years five deaths, 30 and 50 years three deaths, and over 50 years two deaths. The number of deaths at any age was, however, no index of the susceptibility of the period; the incidence of animal bites varied at different ages, for the old, being sedentary, were seldom exposed to attack, whereas the young, being active, gregarious, and unobservant of danger, were especially liable. Towards the extremes of life as the defensive powers diminished the severity of animal bites increased, and as shock, septic processes, and intercurrent diseases frequently complicated bites in the aged, and occasionally in the young, the death-rate from bites was highest in the former and above the average in the latter. But the susceptibility to rabies of different ages was indeterminable, for cases bitten by animals which we proved to be rabid were of insufficient number and of too varying severity to permit comparison.

Our experience seemed to indicate that human resistance, although subject to variations of unknown extent and origin, was usually uniform in childhood and adult life and was unaffected by sex. Concerning old age, we had not enough evidence to justify an opinion.

In every case with the exception of No. 1601 the wound was the most important factor in the result, for upon its severity depended the infecting dose and the number and nature of the absorbing channels. Wounds were separable into two great classes—those on clothed and those on naked sites. The former were comparatively harmless. Thus, in the third series, although two boys received wounds of the same degree, the one bitten through his clothes alone survived. Only one death followed inoculation on a clothed site. Not only did clothes protect the tissues from the biting force, but they also diminished the infection by cleaning the animal's teeth and absorbing its saliva. The latter were always dangerous. It was difficult to prove whether or not the danger varied according to the site. In the fatalities of the second, fifth, and tenth series the face was involved, but with such severity that speculation as to the relative importance of site in them and the survivors was worthless; in the seventh and eleventh series cases survived in spite of wounds on the face, probably because of the slightness of the infections; while in the ninth, a boy, in whom practically the whole face was bitten off, did not die. Of our 30 cases of rabies the face was involved in 26—face alone 21, with forearm 3, and with hand 2; the upper limb in 3—upper arm alone 1, upper arm, forearm, and hand 1, and hand alone 1; and the lower limb in 1. These figures are in agreement with the established clinical fact that human rabies usually results from face bites; the face was the most common objective of rabid attacks, and being uncovered and of delicate texture was easily torn. Bites on the face were thus more frequently inoculatious with rabies than those situated elsewhere, and their character was usually such as favoured massive infection and rapid absorption; but we had no proof that any special lethality was peculiar to the face nor that rabies infections of similar severity upon other sites were less liable to end fatally.

In the 17 cases which commenced in hospital the appearance of the first sign traceable only to rabies and followed by further evidence of the disease within 48 hours was taken as marking the end of incubation; by subtracting the average duration of the disease in these from the known interval between infection and death the incubation period of those who died after leaving hospital was calculated. Among the recipients of Pasteur treatment the shortest incubation, 12 days, occurred in a boy, aged 11 years, bitten on the face and scalp to the fifth degree (Case 22); the longest, 105 days, in a girl, aged six years, with a face bite of the fifth degree (Case 6); the oldest patient, 70 years, bitten on the face and wrist to the fifth degree, became rabid within 26 days; the youngest, one and a half years, bitten on the face to the sixth degree, within 22 days. One (3·7 per cent.) developed rabies in 12 days, two (7·4 per cent.) within 14 days, four (14·8 per cent.) within 17 days, nine (33·3 per cent.) within 20 days, 15 (55·5 per cent.) within 25 days, 21 (77·7 per cent.) within 35 days, and 25 (92·6 per cent.) within 50 days. The incubation period was thus inconstant; it oscillated usually between 17 and 35, occasionally reached 50, but seldom further, and rarely ended before 15; its average duration was 31 days. There was, therefore, in these cases a remarkable and general tendency towards hasty evolutions, although there was no proof of special organismal virulence.

All received injections of unaltered rabies virus, in graduated doses, according to the classic Pasteur method. The routine procedure was to begin with an emulsion in physiological salt solution of a spinal cord of five days' extraction and to continue at intervals of one day with a sequence of cords aged respectively 4, 3, 5, 4, 3, 2, 1, 5, 4, 3, 2, 1, 4, 3, 2, 1, 4, 3, 2, 1. The treatment occupied 21 days. Each patient daily received one injection. The injections were begun in 7 cases within 24 hours of the bite and in 20 within 48. In 4 they were delayed till the third day and in 3 till the fourth; the incubation periods of the former being 17, 22, 30, and 32, and of the latter 19, 44, and 81 days respectively. The treatment was interrupted or closed by death in 15 cases. After the end of the treatment a minimum interval of 15 days must elapse before natural resistance can be sufficiently enhanced to ensure safety; 6 died within this interval; in the remaining 6, as there was ample time for immunity to develop, the failure of the treatment was complete. We could seldom experimentally prove suspected animals to be rabid and we could not ascertain the number of cases of rabies infection which underwent treatment, so the precise measure of our insuccess with the Pasteur treatment was indeterminable. The occurrence of only 6 cases of absolute failure might rightly be construed in favour of the antirabic injections, for with these six exceptions all potential cases of rabies of longer incubation than 36 days were presumably safeguarded. Before the rapid evolution of the disease the treatment was admittedly futile and conceivably baneful in 21 cases, in which, however, there was no evidence of the injections hastening the onset of rabies. The remarkable tendency to abbreviation of the incubation period which we observed possibly emphasised the value of the Pasteur treatment, for fulminating cases were beyond its shelter, and the extent to which they figured in our mortality was an index of the success of the prophylaxis in those cases to which it was professedly applicable. We had practically no experience of intensive modes of treatment.

The three cases admitted rabid and untreated by the Pasteur method were remarkable for the range of their

incubation. The first, a fellah aged about 40 years, was admitted 18 days after receiving a dog-bite of the fifth degree on the face. According to his own statement and that of his friends, he had then been suffering for seven days from pain in the throat and difficulty in swallowing, and for five days had refused all food and drink; his incubation seemed thus to have been scarcely 12 days (Case 28). The second, a boy aged 14 years, had a dog-bite of the fourth degree on the face and developed rabies in 30 days (Case 29). The third, an intelligent artisan aged about 45 years, corroborated by his three adult sons, positively affirmed that his only exposure to infection occurred 18 months before admission, when he was bitten on the left upper arm by a dog. The wound was inflicted through his clothes and was cauterised within an hour of the accident. The infection might not have dated from this attack, but he had only one scar, an old white, irregularly oval cicatrix, with two eccentric depressions, situated near the left deltoid insertion.

Early diagnosis of rabies was frankly tentative. Pyrexia was the most frequent initial sign, but it was inconstant and occasionally rose from obscure causes unrelated to rabies. Mental unrest, a common early sign, was unreliable, for even among non-rabid patients of average nervous stability restlessness and anxiety sometimes accompanied antirabic treatment. Pain in the throat with difficulty in swallowing was the first indication in three cases; cardiac irregularity in one; and in another difficulty in walking. Usually fever with emotional disturbances were quickly followed by the classical laryngeal symptoms and the disease rapidly evolved so as to place the diagnosis beyond doubt; but simple throat infections with fever, pain and difficulty in swallowing, and acute anxiety were sometimes quite indistinguishable from incipient rabies. In one case a temperature of unknown origin and great perturbation were followed by marked hesitancy in drinking (No. 1601) and in another by definite laryngeal spasm (No. 1471); both were suspected of rabies, their Pasteur treatment was continued unaltered, they showed no further signs, and completely recovered. In two suspicious cases bitten by a wolf, whose third victim had died rabid, we thought to derive diagnostic aid from the cerebro-spinal fluid. A lumbar puncture was made; the fluid in both was at very high pressure, but it did not reproduce the disease when exhibited intracranially to rabbits. Both patients are still alive. The signs were so protean and the course so anomalous that diagnosis was sometimes uncertain, even after post-mortem examination, without the proof of experimental inoculation. Case 3 developed fever, headache, and mental changes 21 days after infection; he was at first thought to be rabid but no further symptoms arose and his temperature fell; an irregular pyrexia with slight splenic enlargement was the next phase, and the blood was fruitlessly examined for typhoid, paratyphoid, and Malta fevers; pyæmia was then suspected, and on the thirty-eighth day albuminuria and broncho-pneumonia appeared and strengthened this diagnosis; a generalised pyæmic state was found post mortem, but his brain substance produced rabies in rabbits. This may have been an abortive case of rabies which succumbed to pyæmia, or an example of the effect of the super-position of pyæmia upon rabies, but in Case 24 the evolution of the latter disease was uninfluenced by the presence of profound sepsis. The brain substance of persons who are in the incubation stage of rabies or who have completed a course of Pasteur treatment may induce rabies in rabbits; several experiments with brain substance to decide these questions were inconclusive, and the cerebro-spinal fluid of six cases which had undergone the routine series of antirabic injections proved innocuous when introduced subdurally into rabbits. In our cases we did not use histological methods but relied upon the clinical aspect of the disease, the necropsy, and experimental inoculations with the suspected brain to establish the diagnosis of rabies.

In 14 cases the wounds were completely healed and the scars showed no evidence of special irritability when rabies ensued; healing was partial at the beginning of the disease in six, and in three of these it so progressed as to become perfect before death. Wounds in the rabid seemed not to differ from those in the non-rabid; they underwent no change peculiar to the disease, and healing appeared neither to be hastened nor delayed.

Faucal congestion, partial or general, was present in every case: in three, all children, it was trivial; in seven, slight; and in 10 pronounced. Of the last, three were cases in which much distress arose from accumulation in the upper air passages of viscid mucus which the patient strove to expectorate by a short frequent rasping cough; in these the congestion increased as the disease advanced, and the lower part of the posterior pillars seemed to be most affected. In only five cases was the state of the throat previous to the onset of rabies observed, and in four of these no change occurred. Of 100 consecutive patients, of whom 78 were male and 22 female and 45 were children, who presented themselves here for antirabic treatment during the months of January, February, and March, 1909, only 17 were free from faucal congestion, and of these 13 were children. 83 showed acute and chronic inflammatory processes of varying intensity and extent affecting the fauces, pharynx, and larynx. As faucal congestion is thus without constant characters in the rabid and in no definite causal relationship to the disease, and as it is so frequently present in the non-rabid, it is practically useless as a sign of rabies.

Salivation was not an early sign; it usually appeared on the eve of the second or in the course of the third day and the secretion increased as the disease progressed; the viscidity varied partly but not entirely as the amount of the secretion; the viscid forms were sometimes accompanied by a troublesome cough and faucal, pharyngeal, and laryngeal congestion; copious salivation usually involved frequent expectoration with frothing at the lips in the rabid stage and dribbling in the paralytic. In two cases in which salivation was slight when the paralytic stage developed and the tongue lay motionless in the dropped jaw the palate was seen to be studded by little pearly beads of secretion. In three cases no increase of saliva was noted, in seven the increase was slight but obvious, and in ten it was marked. In two cases the parotids, in three the submaxillary salivary, and in two the submaxillary lymphatic glands were enlarged; in two the tonsils were hypertrophied. Lacrymation was only thrice noted.

In the 17 cases in which we observed the commencement of the disease an initial rise of temperature occurred in 15; of these, two were septic and a third had a slight irregular fever, so only in 12 could no cause except the onset of rabies be found for the pyrexia; but in 14 the onset and rise appeared simultaneously and in the fifteenth the onset synchronised with an access of fever. In two the initial rise was absent; in 7 it varied from 0·4° to 0·9°, and in 6 from 1·0° to 1·5°; its maximum was 1·5° and its average 0·9°. The course of the temperature varied with the duration of the disease; in cases lasting only one or two days the fever rose till death; in 13 cases it reached its height on the second day, in two on the fourth, in one on the third, and in one on the first. The maximum rise in three cases—one septic—was less than 1°; in three between 1·0° and 1·5°; in 13—one septic—between 2·0° and 2·9°; and in one 4·3°, above normal. In nine an agonal rise of varying extent occurred and in nine a fall; in two, no temperature change immediately preceded death. As a rule the more acute the case the higher was the temperature; if the rabid stage predominated the case was usually but not invariably febrile. In two out of the three cases in which the period of excitation was only slightly marked pyrexia accompanied the paralytic stage, which, however, in its usual sequence, following a more or less exhausting rabid stage, was characterised by a temperature with a subnormal tendency which doubtless had its origin partly in starvation. A morning fall and evening rise were customary, but not invariable, and the extent of the daily temperature excursion had no characteristic uniformity. In prolonged cases the fever usually reached its height on the second day and then progressively sank to lower levels till temperatures of 36° or even 35° were attained and the disease continued at such low levels till the end. (Of the above temperatures the initial were mouth, the others rectal; all were Centigrade.)

Of 20 cases only 16 showed laryngo-pharyngeal symptoms. Of these, one complained of pain only in swallowing, which was accomplished with apparent ease; three showed a certain degree of hesitancy and deliberation in drinking which was preceded by several gasping inspirations; six performed the act with a slight but definite jerk, and six showed marked spasm. The severity of the spasm varied: in slight cases the respiratory and pharyngeal muscles alone were involved; in graver cases a more or less general clonic convulsion occurred, and in one case a generalised tonic spasm of short duration with a certain degree of opisthotonos resulted;

in two cases incontinence of urine was observed. The severity of the spasm was somewhat dependent upon the inducing stimulus: in minor cases an attempt at drinking was the minimal and only stimulus and produced the maximal effect; in graver cases the sight, sound, or suggestion of fluid sufficed to produce a spasm, but the maximal effect was usually not achieved unless an effort to drink was made. The lesser degree of spasm still permitted drinking after a more or less painful ordeal, in which the patient usually averted his eyes, shakily grasped the drinking vessel, jerkily raised it to his lips, and then paused tremulously while he made several attempts to induce the necessary muscular coördination by swallowing his saliva. In almost every case irregular, gasping inspirations immediately preceded the actual attempt. In the more severe degrees an elaborate ritual was observed before the fluid was negotiated: the patient punctiliously arranged his surroundings, carefully adjusted his clothing, and dismissed any unwelcome spectators; no effort was made to swallow saliva, but the mouth and throat were repeatedly cleared by expectoration; then eager, earnest prayers were jerked forth, under cover of which abortive attempts were made to take the muscles of swallowing by surprise; finally some fluid was actually introduced into the mouth; a violent spasm at once resulted and the fluid was forcibly expelled.

The intensity of the spasm occasionally made the patient scream with agony. If the pain was marked the patient needed to be persuaded to drink, but if it was slight he sought the test and strove to repeat it in the hope that each mouthful would prove his difficulty to have disappeared. Solids were always more readily negotiated than fluids and could usually be swallowed in small quantities even in the presence of violent spasm; neither the sight of solid food nor the suggestion of eating induced the spasm in any of our cases.

The voice was usually clear and shrill, but in those who had the typical cough hoarseness was usual, and one patient was practically aphonic. Speech was punctuated by gasps and rapid or tempestuous according to the degree of excitement, but in several cases towards the height of the rabid period speaking seemed painful and difficult and responses were slow and of few words.

Laryngo-pharyngeal symptoms were the first indication of the disease in three cases; they appeared within 24 hours in 11, within 48 in 13, and were entirely absent in four; in the three who were admitted rabid, spasm was marked but its precise date of development was uncertain. Pain, hesitancy, gulp, and spasm were noted successively to develop in two instances, so each may mark an inconstant stage in a process which varies in its completeness. Usually these symptoms progressively advanced towards a maximal severity, but sometimes they waned and waxed from hour to hour and even so completely disappeared as to give rise to false hopes of a mistaken diagnosis. With the onset of the quiescent period the spasm abated, paralysis ensued, and the power of swallowing was more or less abolished. These symptoms were a very valuable aid to diagnosis, but in the early stages they were difficult to distinguish from the symptoms of slight septic throat affections; in two cases they were present and no other sign of rabies followed, and in four, in which the brain substance induced rabies in rabbits, they were entirely absent.

Psychological changes were of constant and early occurrence, but as all our patients were Egyptians, delicate initial changes were difficult to detect and unobtrusive mental symptoms were not observed unless some obvious danger signal, such as fever, had first focussed attention. The earliest complaints were of great weariness, headache, stabbing pain or sense of constriction in the chest, and pain in the throat. Usually suppressed excitement and fear first developed and were succeeded or obscured by a state of extreme dejection and misery; surliness, silence, and weeping were not common; dread of change and of their fellow patients, disinclination for food and fear of drink, sleeplessness, and delusions culminated not infrequently in furious outbursts. These bouts were sometimes the climax of a period of progressively increasing irritability in which the patient was often reduced to an agony of vigilance by the idea of his impending murder by stabbing; attendants, parents, friends, all were suspected. One patient sought safety by locking and defending the door of his ward, another by attempting to jump out of the window, and two others by trying to escape from hospital. Several were terrorised by pursuit by imaginary men and animals, and were liable to maniacal attacks on the slightest additional stimulus. Rarely such outbursts appeared with startling suddenness in the midst of a period of apparent quiescence. In children they were expressed by fits of screaming with convulsions, or intense restlessness. These attacks often ceased as suddenly as they began, and interludes in which the patient was calm, free from fear, of assured well-being, and of hopefulness verging almost on gaiety occurred in a bewildering fashion. Consciousness in children seemed early to disappear, but in adults it was usually maintained, sometimes with appalling clearness, to the end; hence some cases with a marked tendency to violence were readily soothable. Two in whom reason was lost coursed round their room on all fours emitting short, shrill frequent cries and seemed indifferent to or resentful of attempted interference: in these the virus may have specially affected the cerebellum; four were so violent that mechanical restraint was necessary. As the disease advanced the rabid outbursts became milder and the intervals of apathy and exhaustion more prolonged till they gradually merged into death.

Occasional vomiting was thrice noted. Irregularity in the force and rhythm of the heart was a late symptom in seven cases, and in two was present from the onset. The heart-rate varied with the age of the patient and the stage of the disease; usually it was at first accelerated, but later there was a tendency to slowing; even in markedly febrile cases it seldom rose above 90 per minute, and a rate of from 58 to 65 was not uncommon in mildly febrile cases in adults. Respiration at first quickened: in adults a rate of from 28 to 36 was frequently observed, and in children 40, 50, and in one case 56 per minute. It soon became irregular and interrupted by frequent short sighs; later, it sometimes became a confusion of deep and shallow inspirations with erratic and sometimes prolonged apnœic pauses; sometimes it was deep and slow with movements of the alæ nasi and indrawing of the intercostal spaces. In a child of five years, in whom this last type persisted throughout, the rate was from 16 to 19 per minute. In four children bronchitis complicated rabies.

In spite of the prevailing tendency to melancholia patients were usually voluble in pious expressions of thankfulness for their anticipated recovery. Frequently the more obvious the advance of the disease the more insistent were the protestations of well-being and gratitude. Speech was irregularly punctuated with sudden halts; expression often imperfect, concentration lacking, and word memory faulty; hence some degree of incoherence was frequently present.

There were no characteristic eye signs, but strabismus was four times observed, ptosis twice, and nystagmus and photophobia each once. The fundus was examined in four cases and no changes were found. Exaggerated deep reflexes, clonus, head retraction, and other evidences of spasticity occurred with hyperæsthesia which involved varying areas of the trunk and limbs—especially the lower; later complete flaccidity and paralysis with anæsthesia developed. All degrees of initial irritability and subsequent depression were observed, but occasionally there was neither definite motor nor sensory disturbance. Incontinence of urine was usually present throughout in children; in adults it occurred only at the height of a convulsion or in the paralytic stage; constipation was usual. Convulsions were once localised to, and twice accentuated upon, the side of the lesion, but in other cases both sides seemed equally affected.

Rarely, as in Case 18, the pre-rabid stage predominated, and after a varying period of gentle melancholia with rapid emaciation the patient died. Sometimes the preliminary irritability suddenly changed to acute mania and death quickly supervened from cardiac failure without the development of any paralytic stage—e.g., Case 12, a man, aged 20 years, was bitten to the sixth degree on the face and had an incubation period of 16 days. For about 14 hours he was anxious, restless, and somewhat tremulous; his speech was rapid, words ran in unequal gasps, but he was very insistent that he was not ill. He had a slight laryngeal spasm; suddenly he became wildly excited and rushed shrieking through the hospital; he was captured, but in the process he bit an attendant severely in the loin. The furious outburst lasted one hour. He became suddenly quiet and on examination was found to be dead.

In two cases there was practically neither preliminary nor paralytic stage; e.g., Case 17, a boy, aged five years, was bitten on the face to the fourth degree, and rabies began on the twenty-third day. Two hours after he had been noticed to be "queer and restless" his temperature rose to 38·5° and continued to rise till death, when it reached 41·3°. For eight hours he was quite maniacal, throwing himself violently against the padding of his cot or crouching in a corner screaming with terror and trying to beat off a swarm of imaginary dogs. He was quite unsoothable. He took a bromide and chloral draught apparently without difficulty or spasm about five hours before death, which occurred with startling abruptness 11 hours after the first symptom. His brain gave rabies to rabbits. In others the paralytic symptoms predominated; e.g., Case 6, a girl, aged six years, was bitten to the sixth degree on the left side of the face and had an incubation of 21 days. This patient had no initial fever but the temperature rose to 39° at the end of the first day and remained at a high level for 36 hours, when death occurred; she had no laryngeal spasm and mentally at first she seemed quite normal except for some natural anxiety. She suddenly found difficulty in walking. There was nothing distinctive in her gait, but she was too weak to stand and walked clumsily when supported. The knee-jerks were absent, the plantar and abdominal reactions were very feeble, and there was practically no response to heat or pain below the knees. The pulse became irregular, the patient grew gradually more difficult to rouse, and after 18 hours first the left arm and then the left side of the face began to twitch. The arm movements ceased in a few hours but the facial contortions continued and spread to involve the right side. There were no pupillary nor fundal changes but there were first lateral nystagmus and later internal convergence. All sensation and reflexes, except the conjunctival, disappeared. The head was slightly retracted and frequently rotated to the left side. An intermittent muttering of varying loudness was maintained at intervals. Slight salivation and increase of tears were noted. About 10 cubic centimetres of crebro-spinal fluid were drawn off and the convulsions ceased; the pressure of the fluid as measured by a normal saline manometer was 9·2 cubic centimetres; the fluid was clear, contained very few cells, and did not give rabies to rabbits. The pulse-rate increased till it reached 186 per minute; there was no diaphragmatic action; the respirations were regular and shallow, but never exceeded 32 per minute; bronchitis was widespread. About two hours before death there appeared a fish-like gasp of the dropped lower jaw and extension of the head with each inspiration. It was worthy of note that although the lesion was on the face the disease first manifested itself in the legs, then in the arms, and lastly in the face; also, that the convulsive movements were confined almost wholly to the side of the lesion.

Another paralytic type was exemplified in Case 23. A healthy baby girl, aged one and a half years, was bitten to the sixth degree on the right side of the mouth and had an incubation of 22 days. The infant was sleeping and feeding well. The mother suddenly noticed that "the eyes were staring" and the child "seemed queer." Two hours later it became very restless and tossed about incessantly in its cot. Sudden piercing screams soon followed and then slight but rapidly increasing and almost continuous clutching and twitching movements of the fingers and arms appeared with frequent general convulsions. The power of swallowing was either much diminished or altogether absent. There seemed to be a certain degree of hyperæsthesia, for the slightest touch induced a fit of screaming. The knee-jerks could not be elicited, and although the legs were briskly drawn away the toe movements on stroking the plantar surface of the feet were slight and indeterminate. Squint and right ptosis were present but no pupillary nor fundal changes. After about nine hours the child quietened and remained collapsed and exhausted all next day. On the third day it seemed somewhat better. Fluid introduced into the mouth mostly dribbled out again but a little may have been swallowed. There were then no deep nor superficial reflexes nor response to pain; winking had disappeared, but the conjunctival reflex was still slightly present. The heart was quite regular; there was slight salivation with dribbling; there was no fever; the temperature throughout had a markedly subnormal tendency and progressively sank till on the seventh day when death occurred it was only 35·4°. The post-mortem examination showed no gross lesion, but experimental inoculation of rabbits proved death to have been due to rabies.

Finally, there was a type which somewhat simulated tuberculous meningitis—e.g., Case 19. A boy, aged nine years, was bitten by a dog on the face to the fourth degree and had an incubation of 19 days. The initial temperature was 37·8°; the maximum occurred on the fifth day, 39·4°; then it slowly fell till on the ninth day it was 36·8°. Death occurred on the tenth and there was an agonic rise to 38·2°. Pain in the throat, especially on swallowing, was present from the beginning, but the tonsils were enlarged and inflamed and the glands at the angle of the jaw were palpable. On the second day a slight spasm in drinking was noted but it did not reappear. The boy was very fretful and took neither food nor fluid well. A blood examination on the third day showed a slight polymorphonuclear leucocytosis. The urine was normal. On the fourth day there were a few râles at both bases, the spleen was not enlarged, and the Widal reaction was absent. On the seventh day he was very restless and frequently uttered a short scream; his pulse and respiration were markedly irregular; the abdomen was scaphoid and head retracted. Photophobia and squint were present but no fundal changes. The knee-jerks could not be elicited; the plantar responses were feeble and mainly flexor. Sensation was markedly diminished and there was slight salivation. Lumbar puncture was performed and about 15 cubic centimetres of fluid were drawn off. The cerebro-spinal fluid was at high pressure and faintly milky; it did not cause rabies when injected intradurally. The patient quietened but gradually sank. He became perfectly flaccid and apparently paralysed and insensitive about 36 hours before death. Except for cerebral congestion and œdema the post-mortem examination was negative, but the brain substance gave rabies to rabbits.

The only noteworthy point in the post-mortem examinations was the presence in all but one of marked increase in the cerebro-spinal fluid; the relief of the intracranial tension by lumbar puncture we found in three cases to be of some value in quietening very irritable patients; our six series of experiments with the fluid as a means of ante-mortem diagnosis produced negative results. From the few cases we have cited it is obviously extremely difficult to assert that any case is suffering from incipient rabies, so alleged cures may be discounted. Treatment after the disease was definitely declared proved invariably futile, but to nasal and rectal feeding perhaps the great prolongation in Cases 19 and 23 was partly due.

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THE ETIOLOGY OF THAT FORM OF DISLOCATION OF THE HIP-JOINT WHICH IS GENERALLY REGARDED AS CONGENITAL.

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THE object of this paper is to suggest that in some cases that form of dislocation of the hip-joint, which occurs in young infants and children without any apparent violence, and which is usually regarded as congenital, may be in reality due to pressure exerted upon the hip-joint during the adoption of the erect attitude of such a nature as to produce displacement of the head of the normal femur from a nearly normal acetabulum. The large preponderance of cases which occur in the female sex needs an explanation which the usual view of the condition entirely fails to supply. Congenital deformities, especially those due to intrauterine pressure, such as talipes (unassociated with spina bifida) or deformities occurring at birth, are more likely to occur in male children, owing to the larger size of male as compared with female children. Other congenital deformities, such as cleft palate, are more common in surviving males than in females.

Professor A. Keith has suggested that the condition is due

to some aberration of the internal secretion of the ovary. There are two objections to this theory which, considering its advocate, I put forward with diffidence. The first is that authorities generally recognise that the condition is sometimes hereditary; in other words, in some cases at any rate, there can be nothing wrong with the external secretion of the ovary in those cases of parents, who have this form of dislocation of the hip. Another objection is that variations occurring in the female genitals are rarer than variations occurring in the male genitals, and therefore it would be expected that deformities depending upon these variations would be rarer in females than males.

Before any further consideration is given to the matter it should be quite understood that no effort is made here to deny that congenital dislocation of the hip-joint does occur. Mr. C. B. Lockwood's specimens in the St. Bartholomew's Museum, to which he has very kindly referred me, show that dislocation does occur in the fœtus. But they do not show that all dislocations in infants are congenital.

The usual history of dislocation of the hip-joint occurring in young children is as follows. The patient is a well-developed girl in whom the deformity has been noticed to become progressively worse since the erect attitude was adopted. The deformity may be uni- or bi-lateral. The surgeon rarely sees the child until the deformity is well advanced, it may be two, or three, or even four years after birth. He has a choice, therefore, of choosing the intra-uterine period or the extra-uterine period of the child's life, during which the deformity may occur. He invariably chooses the former period and diagnoses the condition as congenital.

This diagnosis is based upon the following pathological evidence:—

1. A few dissections by surgeons or anatomists of actual congenital dislocation—a large proportion of which occur in monstrosities, and which are, therefore, of little value as evidence when a living, healthy, well-developed girl is being considered. It is surprising how few cases of actual congenital dislocation are on record. Professor Keith tells me that he has never come across a case. I, myself, out of 400 hip-joints which I have opened, have come across only one case in which the acetabulum was abnormal and which may be an early condition of those which Mr. Lockwood has shown in which the acetabulum is completely filled up. In this case the cartilaginous elements of the acetabulum were raised up so as to produce a horseshoe-shaped ridge instead of the normal concavity. If the cartilage had continued to grow doubtless it might have completely filled up the acetabulum, as in Mr. Lockwood's specimens. It may be noted that both Mr. Lockwood's and my own case were males. The great rarity of the actual dissections of truly congenital dislocations is further emphasised by the extraordinary explanations vouchsafed by observers, chiefly continental, whose enthusiasm in some cases has outrun their discretion. Another point to be observed is the very brief description given by some observers, almost indicating some uncertainty as to the dislocation.

2. Clinical cases seen by surgeons at a very young age. (Mr. H. A. T. Fairbank, in a clinical lecture delivered at Great Ormond-street Hospital, Dec. 12th, 1907, has recorded a case two weeks old. Mr. W. M. Mollison tells me that he has seen a case six months old.) These cases, if confirmed by skiagram, undoubtedly suggest, or even prove, that these particular conditions were congenital. But they do not prove that other apparently similar conditions are also of congenital origin.

3. Finally, there are certain conditions found in pelves which are regarded by authorities as indicative of the dislocation being congenital.

Great as are the names associated with these views, the actual changes occurring in pelves which were not demonstrated at birth—not, indeed, in some cases, until many years after birth—cannot be accepted as proof of the condition being congenital. A very common condition which is usually regarded as proof of a dislocation being congenital is a triangular acetabulum, the apex of the triangle being directed upwards and backwards. I removed a left hip-bone from a male subject, aged 54 years, in which the head of the femur was dislocated. In this case the acetabulum is decidedly triangular. This would be regarded by some authorities as a case of congenital dislocation. The history, however, pointed to the traumatic origin of the condition, the patient having sustained an injury to his hip at the age of four years.

So far as our knowledge guides us at present, it may be said that the view that this condition is always congenital fails to explain altogether the very large number of cases occurring in female children. The anatomy of the normal hip-joint may be considered in some detail, and it may at once be explained that very important differences between the male and female hip-joint may be detected either in dissection or skiagrams. The first fact which may be emphasised, as it is of considerable importance in any consideration of the question under review, is that with the doubtful exception of the obturator externus the general pull of the muscles is either upwards or inwards, or a combination of these actions. There is therefore a tendency on the part of the muscles to dislocate the hip-joint. Short of actual dislocation the appearance of the joint differs in the two sexes very markedly. Professor Arthur Thomson has shown conclusively [1] that the characteristic sexual features of pelves are present at and after the fourth month of fœtal life. Thus the greater breadth of the pelvis is as marked in the full-term female fœtus, compared with the male, as it is in the adult. This increased breadth causes the adductors to have a much greater inward pull in the female than they have in the male, with the result that the diameter of the circle, of which the acetabulum (as seen in examinations of fœtuses or skiagrams) forms an arc, is more nearly vertical in the female than in the male. Diagrams will make this point clear. When the erect attitude is adopted the female hip-joint is not so well calculated to resist the upward thrust of the femur as is the male joint. It depends much more for its security upon the rim of the acetabulum, which is cartilaginous during the first two years of life, than does the male joint. (Fig. 2.) Another way of expressing this anatomical fact is to say that the head of the femur in the male is much more securely fixed in the hip-bone than is the case in the female. The acetabulum lies in the male hip-bone. It rests upon the bone in the female. Now the female hip-joint is not only weaker than the male, it is working at a greater disadvantage. The greater width of the pelvis—due to the greater length of the ilio-pectineal bar, which transmits pressure from the sacro-iliac joint to the femur—in the female than the male, *ceteris paribus*, tends to the greater mechanical disadvantage in the female than in the male. (Fig. 1.) Moreover, there is reason to believe, from some of my specimens, that the brim of the female pelvis is more inclined to the horizontal than is the case in the male, with the result that the acetabulum lies on a plane anterior to the vertebral column in the female, whereas in the male the hip-joint and vertebral column are practically on the same coronal plane. Thus not only is the hip-joint working at a greater mechanical disadvantage, but, as has been shown, it is actually weaker in itself. The idea naturally occurs from the preceding remarks that the so-called congenital dislocation is really in many cases a static dislocation, and its frequent occurrence in females is due to the greater weakness of the joint in them than in males. If a full-term fœtus be taken, and elastic pressure applied over some period to the hip-joint it is found that subluxation is much more easily produced in the female than in the male. The pressure in the female is exercised upon the upper part of the acetabular margin which gives under the pressure, allowing the head of the femur to travel upwards, whereas in the male the pressure is exercised upon the ilium and not nearly so much subluxation is produced.

Now so-called congenital subluxation of the hip is recognised as occurring, and is usually regarded as a different condition from dislocation. But it is just as reasonable, possibly more so, to regard it as a stage towards complete dislocation.

With regard to treatment, two classes of cases may be considered to occur. First, those cases in which anatomical reduction of the dislocation can be effected very easily and permanently; and, secondly, those cases in which reduction into the acetabulum is not possible, even in the most skilled orthopædic surgeon's hands. Under my care at the Victoria Hospital there have been two cases (both female) which illustrate very well the cause of the difference in results of treatment. In the first, a child, aged three and a half years, the acetabulum was completely filled up so

[1] Journal of Anatomy and Physiology, 1899.

as to present a slightly concave surface not unlike that of the glenoid fossa of the scapula. In the second, a child, aged two years, the acetabulum was as deep as usual, but the cartilaginous rim in its upper part appeared to be everted and lay upon the lower part of the dorsum ilii, suggesting that, in this particular case, the hip-joint, depending for its security upon the rim of the acetabulum rather than of the ilium, as in the male, has been unable to bear the weight of the child and has given way. This case appears to me to offer a most beautiful demonstration of what has been deduced from anatomical observation. If the cases be considered together, moreover, it is quite clear that the first is a later stage of the second. The second case, in the child, aged two years, showed hardly any change except the dislocation, whereas in the first patient, aged three and a half years, the acetabulum had become filled up owing to the growth of the cartilage, which, owing to the primary and as possible causes of the dislocation are really secondary. These changes may, for brevity's sake, be thus tabulated. 1. The acetabulum is small and triangular (*vide* preceding remarks). 2. The os innominatum is generally small. 3. The head of the femur is flattened and smaller than usual. 4. The neck of the femur is short and anteverted. 5. Coxa valga (Tubby). 6. Hour-glass constriction of capsule of joint. 7. Stretched or absent ligamentum teres. 8. Shortening of leg below knee. These changes may now be considered in greater detail.

1. Owing to the triangular appearance of the acetabulum it has been suggested that the absence of the iliac segment is responsible for this appearance and thus the cause of the dislocation. It is a little difficult to understand that, if this be the case, the deficiency should only be confined to that part of the ilium which forms the acetabulum and not to the rest of the iliac segment. The skiagraphic

FIG. 1.

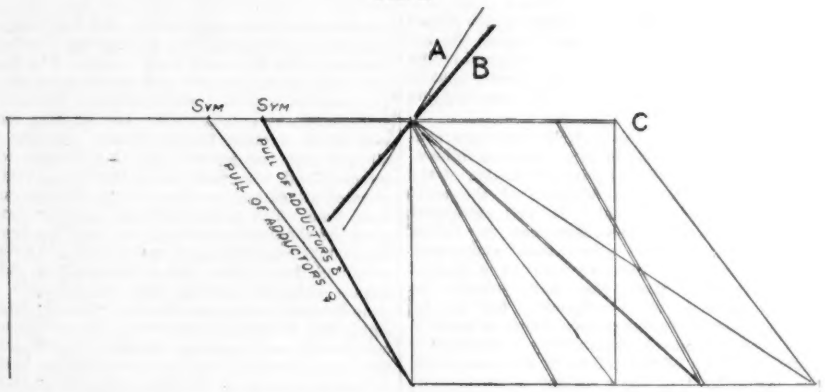


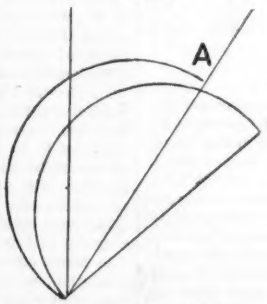
Diagram designed to show why the acetabulum differs in the two sexes, depending upon different pull of muscles owing to different breadths of pelvis in the two sexes. A is diameter of circle of acetabulum ♀. B is diameter of circle of acetabulum ♂. C is direction of pull of external rotators of both sexes. Thick lines represent parallelogram of forces in male. Thin lines represent parallelogram of forces in female. Sym., symphysis pubis.

displacement of the head of the femur, had continued to grow unrestrained by the pressure of the head of the femur which was dislocated. The acetabulum in the second case was circular except for its everted upper margin. The acetabulum in the first case was roughly triangular, or rather pyriform, with its apex pointing upwards and backwards. It may therefore be assumed that, if the cases be regarded as different stages in the same condition, the formation of a triangular acetabulum is secondary to the dislocation and not the cause, as has been asserted by some authorities. Now, mathematical considerations will show that in the erect attitude not only is pressure transmitted through the upper and inner part of the head of the femur, but also through its anterior part. The structure of the upper end of the femur also shows the same point. This means that pressure is transmitted from the pelvis to the femur backwards, downwards, and outwards. If the head of the femur be dislocated, the greater elasticity of the front part of the acetabulum, owing to the obturator arch of the pelvis—in other words, the inner margin of the thyroid foramen, as compared with the single long support of the back and upper part of the acetabulum—would naturally produce a triangular acetabulum.

That static dislocation, as it may be termed, does occur is proved by a skiagram which I have in my possession of the pelvis of a boy suffering from complete paralysis of one lower limb and which shows commencing dislocation.

If the foregoing remarks be accepted as correct, it follows that many other changes which have been regarded as

FIG. 2.



Distance from A to B, which is formed by bony ilium in the male, is formed by cartilaginous acetabular margin in the female.

appearance of dislocation of the hip is important. The iliac segment appears deficient and flattened upon its outer aspect just in the upper part of the acetabulum. This, it is reasonable to assume, is due to the movement upwards and downwards of the head of the femur after dislocation, and should not be regarded as a cause of the displacement. In this connexion I have a skiagram which is interesting, as it shows in an early case that the iliac segments are nearly of the same shape and yet only one joint is dislocated.

2. In unilateral cases the os innominatum is generally small compared with its fellow. This statement, however, though applicable to older cases, is not true of the early ones, in whom the two lateral parts of the pelvis are of equal size. This decrease in size on one side is certainly, therefore, a result of the dislocation, and can be seen in cases of excision of the hip in young people, or unilateral paralysis, or dislocation of the hip due to disease.

3. The small size of the head of the femur and its somewhat flattened appearance are due to the sliding action of the displaced head, and also the fact that if the head is not occupying the acetabulum naturally it will not develop to such an extent as a normally placed head.

4. The short neck and anteverted head are characteristic of the fœtal femur. During the process of development of the adult femur the head and neck grow upward and inward, and the neck is bent somewhat backwards. This fact explains the great concavity on the back of the neck of the adult

femur. The great trochanter in the fœtus occupies a position relatively more posterior and internal than in the adult.

5. Coxa valga, as described by Mr. Tubby, may be explained by the vital reaction of the epiphyseal region to the altered lines of pressure, which are, when the joint is dislocated, directed almost vertically downwards, owing to the fact that the head is partially restrained from moving upwards by the capsule of the joint and gluteus minimus muscle.

6 and 7. These points—viz., the stretching and constriction of the capsule, &c.—offer the following explanation when the head of the femur is dislocated. There is, so to speak, an intracapsular dislocation. The capsule becomes stretched and, owing to atmospheric pressure, constricted between the two parts—viz., the head of the femur and the acetabulum. The pressure being maintained, the ligamentum teres is first stretched and then ruptured, after which it atrophies.

8. The shortening of the leg below the knee, which occurs occasionally, is exactly similar to the shortening of the leg which is known to occur after excision of the hip and is due to decreased use of the whole limb. I have shown that as much as one inch shortening may occur in the tibia after this operation has been performed.[2]

The conclusions forced upon the writer's mind by a consideration of the above points may be summarised as follows. The history of a well-developed girl with dislocation of the hip rarely goes back before the adoption of the erect attitude. The fact that the child is well developed is a considerable factor in the argument in favour of the condition being static rather than congenital. The female hip-joint is weaker and acts at a greater mechanical disadvantage than the male joint. The theory of the dislocation being congenital has so far entirely failed to explain the great preponderance of cases in females. This preponderance is explained by a reference to the comparative anatomy of the joints of the two sexes. Moreover, the suggestion that the condition is static more easily explains the different conditions which may be met with in the cases of so-called "congenital" dislocation of the hip, which should perhaps be called static dislocation occurring in infants.

Weymouth-street, W.

SIX CASES OF VACCINE TREATMENT OF SOMEWHAT UNUSUAL INTEREST.

BY R. W. ALLEN, M.D. LOND.

CASE 1. *Double systemic infection by the streptococcus conglomeratus (scarlatinæ) and staphylococcus aureus.*—On April 18th last I was asked by Dr. C. O. Hawthorne to see a boy, aged eight years, who was under the care of Dr. J. Craig of Beckenham. Eight weeks previously scarlet fever had been contracted at school at Eastbourne. After six weeks in hospital the patient returned home with a slight nasal discharge. To signalise the completion of his convalescence he was taken into town to lunch, with the result that the same evening his temperature rose to 103° F., and the next morning he was delirious. Five days later his brother and a young nursery-maid were also attacked by scarlet fever. When seen by Dr. Hawthorne on April 16th he was delirious and apparently comatose, his pulse being 136 and his temperature 105°. Sponging failed to affect the temperature appreciably. The drums of both ears had perforated and were discharging freely. When I saw him with Dr. Craig on the 18th he was in a low muttering delirium, the pulse being 128 and the temperature 104°. Cultures in broth and upon blood-agar plates were taken, both from a vein and from the aural discharge, and from each growths of the streptococcus conglomeratus and staphylococcus aureus were obtained. The urine was sterile. At 8.30 P.M. on the following day, the temperature being 104·8°, an injection of 8,000,000 of a staphylococcus aureus vaccine prepared from his own organisms, and of 12,000,000 of a stock streptococcus conglomeratus vaccine prepared from 12 different strains, was administered. The temperature and pulse began to improve almost immediately, as will be seen from the following table:—

Date and time.	Pulse.	Temperature (rectal).	Date and time.	Pulse.	Temperature (rectal).
April 19th.			April 20th (continued).		
8.30 P.M. (injection).	128	104·8° F.	7 P.M.	104	101·8° F.
April 20th.			11 P.M.	110	102·8°
3 A.M.	116	103·8°	April 21st.		
7 A.M.	120	103·6°	3 A.M.	104	102·4°
11 A.M.	110	103·2°	7 A.M.	116	100·0°
3 P.M.	108	103·0°	11 A.M.	96	100·4°

Consciousness was regained by the following evening and sleep was good, and at 11 A.M. on the 21st he was wanting to know what he could have to eat. The injection of the 19th was then repeated and again upon the 24th. The temperature oscillated daily between 99° and 101°. Convalescence was uninterrupted, and on May 4th the patient was up in a chair for two hours. On the 16th he was allowed into the garden with his brother whom he had infected, and who had passed through a perfectly uncomplicated attack and was then being allowed out also for the first time. The aural discharge rapidly lessened, but to minimise the damage as much as possible a few injections of 100,000,000 staphylococci and 25,000,000 streptococci were given on April 30th, and subsequently at intervals of ten days. Although hearing upon the left side was entirely gone for three weeks and was very seriously impaired on the right side, it steadily improved; the perforations healed up completely, and Dr. Craig informs me that ten weeks after the attack hearing was quite normal on both sides. No indices were taken at any time and immunisation was carried out entirely under the guidance of pulse, temperature, and clinical symptoms. I am permitted to say by Dr. Hawthorne and Dr. Craig that the sudden change in condition was in their opinion certainly due to the vaccine treatment, which in all probability saved the boy's life.

CASE 2. *Pneumococcal septicæmia, arthritis, and intramuscular abscesses.*—The patient, a male, aged 63 years, was under the care of Dr. Frank Rushworth of Finchley-road, N.W., who has very kindly given me the following account of the illness: "It began on March 25th, 1909, with symptoms of influenza, of which there were many cases in the neighbourhood at the time. When seen on March 27th the temperature was 102° F. He complained of headache, backache, muscular pains, cough and hoarseness without expectoration, and sore throat. The temperature soon fell and the patient appeared to be improving until April 1st, when sudden pain in the right knee supervened. Synovitis and effusion were present. On April 3rd thrombosis of the veins in the right calf occurred; later in those of the thigh. Both leg and thigh were much swollen and œdematous. The tongue was very dry and foul; the pulse 160 or more and very irregular. The heart sounds were feeble; there was no evidence of dilatation, valvular disease, or pericarditis, but myocarditis was evidently present and the patient appeared to be dying. He, however, rallied and the condition of the heart very slowly improved. On April 20th signs of dry pleurisy appeared in the left chest, and later in the right also. The temperature continued between 102° in the evening and 99° in the morning. The pulse was about 140 and less irregular." On May 24th I was called in by Dr. Rushworth with the view of taking blood cultures. The account given of the supposed influenzal attack was so typically that of a pneumococcal cold,[1] complicated, perhaps, by the bacillus influenzæ, that the diagnosis of pneumococcal cold progressing to pneumococcal septicæmia, arthritis, thrombosis, and pleurisy could be made with reasonable certainty before the patient was even seen. This diagnosis was substantiated by the fact that cultures taken both from a vein in the arm and the pus from the knee-joint showed pure pneumococcus. A vaccine was prepared and on May 26th an injection of 50,000,000 was

[2] Guy's Hospital Reports, vol. lx.

[1] See THE LANCET, Feb 13th, 1909.

given. On the 28th Mr. W. Drew opened abscesses in the calf, the thigh, and the knee-joint under eucaine, large drainage-tubes being left in. On the 29th the temperature fell to normal and the patient began to improve steadily. Dr. Rushworth continued the injections as follows: On June 11th, 50,000,000; on the 19th, 100,000,000; on July 8th, 100,000,000; on the 18th, 100,000,000; and on the 28th, 250,000,000. After the injection on July 28th the patient improved very markedly; the pulse-rate fell to between 80 and 90, and became regular. A little serum only exuded from the one wound in the thigh, which was still open, and the patient began to get up daily. On August 20th a further injection of 250,000,000 was given, the patient steadily regaining health.

This case exhibits the following points of especial interest: 1. Although it would appear that arthritis supervenes upon pneumonia in the ratio of 1 to 1000, only 63 cases have been recorded to date.[2] 2. Very much rarer, indeed, is it for pneumococcal arthritis to occur without a precedent pneumonia, as in this case; indeed, only four cases are recorded, and in three of these the issue was fatal. 3. Despite the advanced age of the patient, the delay in coming under treatment, and the high death-rate (at least 50 per cent.), the patient made an uninterrupted recovery. How much exactly was due to the vaccine treatment and how much to the evacuation of the pus it is impossible to say; but that the patient improved after the first injection and that he was thereby rendered better able to undergo even the slight operation was evident.

CASE 3. *Pyuria.*—The patient, a female, was under the care of Dr. J. Hervey Bodman of Clifton. The illness was of an uncommon character. Seven years ago an operation for perityphlitic abscess was followed a fortnight later by the appearance of pus in the urine. The abscess healed satisfactorily, but pyuria to the amount of from four to six ounces, chiefly voided in the morning, had persisted more or less. Direct microscopical examination of films and cultures showed the presence of pure micrococcus tetragenus, both intra- and extra-cellularly. Whether this was the original infection or whether it was secondary to a prior one by bacillus coli or a staphylococcus was left an open question. A vaccine of the tetragenus was made, and treatment was begun with doses of 50,000,000. Two of these were followed at ten days intervals by two doses of 100,000,000. No clinical improvement had by then resulted, but a very few specimens of bacillus coli and rather more of staphylococcus aureus were then to be seen among the examples of micrococcus tetragenus, which were certainly reduced in numbers, and I incline to the view that these former were the original infecting agents held in abeyance by the latter, and now coming again to the front as the vitality of the micrococcus tetragenus became reduced. Ten days after the fourth injection 250,000,000 each of the autogenous tetragenus vaccine and of a stock staphylococcus aureus one were given, and ten days subsequently 500,000,000 of the former and 250,000,000 of an autogenous staphylococcal one. The patient is still under treatment and progress is very slow.

CASE 4. *Delayed resolution after pneumonia.*—The patient, a female, under the care of Dr. Duncan McIntosh of Aboyne, was seen in consultation with Dr. David Lawson of Banchory and recommended to me for vaccine treatment. Four months previously pneumonia had supervened upon septic tonsillitis. The crisis occurred upon the thirteenth day, but little resolution had resulted. Numerous large and small râles were still present all over the left chest, and there was copious thick yellow expectoration. Pneumococci and micrococcus catarrhalis were present in large numbers; these were isolated, and a vaccine of each was prepared. The following injections were given. On Oct. 2nd, 1908, 50,000,000 each of pneumococcus and micrococcus catarrhalis, there being no pulse or temperature reaction whatever. On the 17th, 50,000,000 of pneumococcus and 125,000,000 micrococcus catarrhalis, no reaction following. On the 26th, 100,000,000 of pneumococcus and 125,000,000 micrococcus catarrhalis. There was already considerable improvement—only about a teaspoonful per day of sputum, which contained relatively few pneumococci. The chest was clearing rapidly. On Nov. 12th, 250,000,000 each of pneumococcus and micrococcus catarrhalis. On the 24th the same injection was given as on the 12th. There were a few râles at the base. On Dec. 10th the injection was the same as that given on Nov. 24th. Only one lump of sputum was brought up during the last few days, containing very few pneumococci indeed. On July 24th, 1909, Dr. McIntosh wrote to say that the patient had remained quite well, except for an occasional slight tracheitis. No adventitious sounds in the lungs were to be heard except a fine occasional mucous click after the first deep inspiration.

CASE 5. *Infection of the antrum of Highmore by the bacillus influenzæ and pneumococcus.*—This patient, a male aged 50 years, had been operated upon in Paris eight weeks previously for infection of the left antrum of Highmore of some months' standing. Daily syringing *viâ* the nasal cavity had, the patient said, produced diminution neither of the neuralgic pain nor of the discharge, which was thick, yellow, purulent, and very copious. Despite my insistence on the necessity for continued drainage, he refused to be subjected to further syringing or other surgical treatment until trial had been made of vaccine alone. Smears and cultures showed vast numbers of pneumococci and a few staphylococcus albus. Numerous bacillus influenzæ were to be seen in smears but failed to grow in cultures. A vaccine of the pneumococcus was accordingly made, and on May 25th, 1909, a first dose of 50,000,000 was given. Thorough douching of the nasal cavity thrice daily with glycothymoline 1 part to 3 of warm water was carried out, and the patient slept upon the right side with his head low to aid drainage. On June 3rd he reported himself as already much better, the discharge being less in quantity and purulency. The 50,000,000 dose was accordingly repeated, but, as with the first dose, on the following day unilateral neuralgic pains of moderate severity were experienced. By the 10th the condition was still further improved and a dose of 100,000,000 was given. Ten days later there was very little discharge, but the bacillus influenzæ was present in large numbers and now grew readily. A vaccine of it was accordingly made and 50,000,000, together with 100,000,000 pneumococci, were given upon the 22nd. By July 6th the pneumococci had entirely gone and very few bacilli influenzæ were present. Accordingly on the 8th 100,000,000 of the latter were alone given. For the few days prior to this there had been no discharge whatsoever, even after douching out the nasal cavity. A week later he returned to America apparently perfectly well, with the instructions to have two or three more doses of his vaccines administered lest recurrence should result.

CASE 6.—The patient, a female, is one of the most successful of about 20 cases of asthma and bronchitis for which I have prepared vaccines during the past few months. By the advice of Dr. H. Alexander Francis the patient, who is under the care of Dr. W. Warburton Wingate of Cambridge, sent me a specimen of her bronchial secretion for examination and, if thought advisable, the preparation of a vaccine. Among the bacteria present in smears and isolated were the pneumococcus, streptococcus mucosus, micrococcus catarrhalis, and large numbers of a diphtheroid very like bacillus septus but rather smaller. A composite vaccine of these was prepared and on June 21st, 1909, Dr. Wingate gave the first injection. These have been repeated at intervals of ten days, with the interesting result that within 12 hours of each injection a violent attack of bronchitic asthma has supervened, but has lasted for only two or three hours. With these exceptions the patient has been entirely free from attacks, which previously were frequent, violent, and lasted for three or four days.

A precisely similar result has been obtained in another case, and it is much to be regretted that financial considerations have precluded the methodical determination of a specific infecting organism. Careful bacteriological examinations in over 20 cases of asthma have failed to reveal the constant presence of any one particular organism; each case presents a complex picture, most swarm with micro-organisms, and a few have shown within the casts and spirals nothing but short streptococci, and I cannot but feel that a variety of streptococcus is of considerable importance in the production of some of the symptoms of certain cases of severe bronchial asthma.

Most of the cases are still under treatment and it is difficult to forecast the ultimate results. The majority are benefiting; in two or three the bronchitis has improved greatly, but upon the asthma no beneficial effect whatever

[2] For list see Streckler, New York Medical Journal, July 17th, 1909, p. 106.

has been exercised. The following points are reasonably clear: (1) that bacteria play a by no means unimportant rôle in bronchitic asthma; (2) that no one bacterium is responsible—probably most of the catarrhal organisms play a part, but others cannot be excluded; (3) that considerable good can be done by mixed vaccines in some cases; and (4) that accurate bacteriological and cytological observations upon a series of cases, correlating these with clinical observations, are much required to place the vaccine therapy of the condition upon a sound footing.

Harley-street, W.

THE USE OF THE ULTRA-MICROSCOPE FOR THE EARLY DIAGNOSIS OF SYPHILIS.

BY HUGH WANSEY BAYLY, M.A. CAMB., M.R.C.S. ENG., L.R.C.P. LOND.,

PATHOLOGIST TO THE LONDON LOCK HOSPITALS; ASSISTANT IN THE BACTERIOLOGICAL DEPARTMENT, ST. GEORGE'S HOSPITAL.

TILL within the last year in Paris and at present in England most authorities have not considered the appearance of a primary chancre sufficiently diagnostic to justify the commencement of a three years' course of antisyphilitic treatment, and therefore have waited for the appearance of secondary symptoms before making a certain diagnosis and commencing the treatment. In this way error of diagnosis was obviated, but several weeks were lost during which the treponema pallidum was multiplying in the body, and the patient was subjected to the annoyance and discomfort of the secondary manifestations.

A diagnosis based on the staining of scrapings from the primary chancre or from a suspected sore-throat, with a view to demonstrate the presence of the treponema pallidum, was not very satisfactory, as this organism is difficult to stain and will be missed in a very considerable percentage of cases. The ultra-microscope, however, provides the means of making an early, rapid, and certain diagnosis and is now in routine use for this purpose in the Paris hospitals. Through the courtesy and kindness of Dr. Gastou, Chef de Laboratoire of the St. Louis Hospital, and Dr. Lacapère, Médecin de St. Lazare Hospital, I have been enabled to attend their cliniques and laboratory work recently and to appreciate the extreme value of the ultra-microscope as a means of diagnosis.

The ultra-microscope substitutes trans-, or rather oblique, illumination for direct illumination, and as the fine dust, invisible by direct illumination, appears as "motes in the sunbeam" by transillumination, so fine unstained particles with the ultra-microscope appear clear and distinct, and scrapings from primary or secondary lesions in the very great majority of untreated cases show the treponema pallidum. All lesions do not, however, show the treponema in equal numbers; thus the organism is present in the greatest numbers in mucous plaques, is usually present in only small numbers in chancres, and is very seldom found in the roseolar rash, though frequently found in some papular rashes. The organisms are found in the margin rather than in the centre of the lesions. The treponema has not been found in the blood by this method, except in some cases of congenital syphilis, neither has it been detected in tertiary lesions.

After a few weeks' treatment the number of the organisms is usually greatly reduced, and there may be considerable difficulty in finding one, but I was told that out of a very large number of previously untreated chancres examined the treponema has been found in all but two, so that this method of diagnosis may be considered absolutely reliable for recent untreated sores. Even if untreated the treponemata tend to become fewer and slowly to disappear from the site of inoculation, so that absence of the treponema in a sore which has been present for over six weeks does not absolutely exclude syphilis, even if there has been no treatment. If a local antiseptic has been used the patient should be instructed to wash it away with plain water and return in three days.

Care must be taken not to confuse the treponema pallidum with the various other spirochætæ so frequently found in the mouth and genitalia. The treponema pallidum, however, is so characteristic in appearance and movements that an experienced observer is unlikely to mistake any other spirochæta for it.

The technique is very simple, the chief difficulty being the adjustment of the apparatus (light, condenser, mirror, and ultra-microscope). A small drop of distilled water or normal salt solution is first placed on the slide, and then the margin of the chancre, mucous plaque, or papule is gently scraped and the serum expressed by pressure, and a small quantity of this mixed with the drop of water on the slide. The distilled water causes the organism to swell when it can be more easily seen than in normal saline. A large cover-glass is now applied in the usual way and pressed down *firmly*, so that only a thin layer of fluid remains between the cover-glass and slide. A drop of immersion oil is now placed *underneath* the slide, which must be sufficient to fill the space between the lower surface of the slide and the upper surface of the ultra-microscope condenser, and a second drop is placed on the cover-glass in the usual way; the preparation is now ready for examination. The blood cells, bacteria, spirochætæ, &c., will be seen as glistening refractive objects on a dark background.

Several makers (Zeiss, Leitz, and others) have ultra-microscopes on the market. I prefer the substage variety of Leitz, a diagram of which, showing the path of the light rays, is given below, as here the specimen can

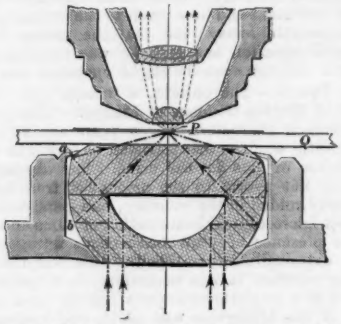


Diagram of the Leitz substage ultra-microscope. *a* and *b* show points of reflection of rays which pass through the slide Q to converge on the point P.

be moved about with the microscope's usual mechanical stage; but the superstage variety has the advantage that it can be instantly removed when the microscope is required for ordinary microscopic work. Either variety of ultra-microscope can be fitted to any microscope at a trifling cost. A detailed account of the construction and use of the ultra-microscope will be found in a paper by Dr. Gastou and Dr. Comandon in the *Bulletins et Mémoires de la Société Médicale des Hôpitaux de Paris* of March 19th, 1909, entitled "L'Ultra-Microscope et son Rôle Essentiel dans le Diagnostic de la Syphilis."

Brook-street, W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTES ON THREE CASES OF MALARIA TREATED WITH INJECTIONS OF QUININE.

BY GERALD W. YOUNG, M.D. EDIN.,

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THE striking and immediate result which I obtained, albeit in only three cases, by the injection of a soluble salt of quinine in malaria has induced me to send the notes of the cases to THE LANCET. I do not remember where I read the method of treatment, but I made a note of it at the time when I was practising in South Africa and when I saw cases of malaria from time to time. The first case presented itself on board ship going from Cape Town to London; the second—a year later—at Uyuni in Bolivia; and the third has just left the hospital. I have never read any published accounts of such treatment, and here have no literature on the subject to refer to.

CASE 1.—An Englishman, 38 years of age, had lived some years in Rhodesia. He had several attacks of malaria which had lately become more frequent and more severe, so that he had obtained leave of absence for a trip home. I saw him the day he came aboard in Cape Town. He was a tall, emaciated man, with a leaden hue of countenance. He had an attack of ague the following day and thence every other day for three attacks (tertian form). The patient went through the usual three stages of the "ague fit," the temperature each time reaching 104·5° F. He was treated at first with 30 grains of bisulphate of quinine per os in the 24 hours. He was accustomed to take such quantities. In the second attack he vomited every dose and the quinine was therefore injected into the rectum. After the third attack I bethought me of the acid hydrochloride which I had among my own remedies and I boiled 10 grains in a test tube and injected it in the gluteus muscle, following this by 5 grains of the same salt in cachet three times a day. From that time he had no more attacks. He got stronger and left his bed and came on deck and remained free for the rest of the voyage.

CASE 2.—An Argentinian, aged 28 years, arrived in Uyuni, Bolivia, having walked and ridden on mule back a long distance from Salta in the Argentine Republic. He described how he had literally dragged his way along, suffering off and on the whole journey from attacks of ague. He told me that it was no use giving him quinine as it usually made him worse. This man had two attacks in the hospital at Uyuni at the same time on following days (quotidian form). After the second attack I treated him with injections exactly as in Case 1, and he had no more attacks. He took a mixture of iron and quinine phosphate for a month after, when he left the place quite well.

CASE 3.—A Chilian, 23 years of age. He had an attack of malaria a year ago in Africa. He had a rigor while in the consulting-room, when his temperature rose to 104·5° F. It fell the same evening to normal. The second and third days he had an attack at 10 A.M.—i.e., three attacks in all on following days at the same time (quotidian). He was treated in the same way and was kept in a week later for observation.

It will be noted that the dose (10 grains) is in excess of that given in the books. Martindale says ½ to 2 grains hypodermically. The solution of 10 grains in a drachm of water boiled in a test-tube is injected deep in the deltoid or gluteus muscle with aseptic precaution. I am aware that three cases do not form an important criterion, but I think the success of these three warrants its further trial. I may say I have not treated any other cases of malaria than these three since I first read of the method.

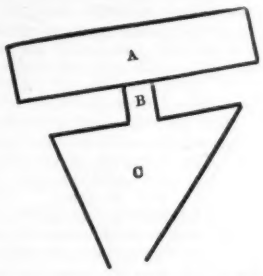
Antofagasta, Chile.

FORMATION OF THE UPPER LIP BY AN EXTENSION OF THE FOREHEAD FLAP IN RHINOPLASTIC OPERATIONS.

BY MOTILAL T. AVASIA, L.M.S.

THE formation of an artificial nose by a flap from the forehead, as practised in the so-called Indian operation, is a more feasible procedure in mutilation of the organ than some of the other methods; it has the advantage of curing the patient of another unsightliness. When the nose is cut the upper lip usually goes with it, leaving a permanent disfigurement and exposing the upper line of the teeth. The new lip can be formed by a flap from the cheek, but it causes additional scarring and distortion of the face, so that it is best to devise a flap from the forehead for forming a new lip. When the flap is taken from the forehead for forming a new nose, a flap proportionate to the size of the lost upper lip should also be dissected out, *continuous with* the columnar portion of the nasal flap, so that its blood-supply is ensured from the same source until it is permanently fixed in its new position. The labial flap must be united on either side to freshened edges of the skin at each angle of the mouth. The shape of the forehead flap with the labial accessory is something as follows (see illustration). The portions A, B, and C represent respectively the labial flap, the columna, and the nasal flap in outline.

The operative procedure in ordinary rhinoplastic operation by forehead-flap requires to be varied in the following particulars when the accessory labial flap is added to the main nasal flap. 1. The root of the flap ought to be about two lines larger. 2. It is difficult to suture the columna, so that the alternative procedure must be adopted of freshening the site for its implantation and keeping the columna in position by the help of plugs inserted into the newly formed anterior nares and by the pressure of dressings, and ensuring recumbency for a week. 3. The extremities of the labial flap must be sutured to corresponding gaps at the angles of the mouth, and the flap should be taken about one inch longer



and a quarter of an inch wider than actually required as shown by measurement. 4. Horse-hair previously sterilised in hot water and carbolic solution (1 in 40) is the best material for suturing, as it causes no tension; the late Dr. Shah used the same material probably for the same reason. The hair may be doubled if a single thread is found too weak for holding its charge in position. 5. The under surface of the labial flap must be protected from contact with the fluids of the mouth by a pad of carbolised lint; this may not be essential, but I could find no drawback to it in the cases in which I have used it. 6. A pad of lint should also be placed on the upper surface of the lip-flap and the latter should be secured in position by strips of plaster. 7. The mouth should be syringed out with weak carbolic lotion once a day and the patient kept on milk or any other liquid diet. The first and the second dressings must be done by the operating surgeon himself for several reasons. I mention the following case in illustration of the result of the operation. A woman, aged 25 years, had her nose cut off and also the upper lip when she presented herself for treatment. On Jan. 7th last an attempt was made to form a new lip along with the nose in accordance with the technique described above. She was discharged 35 days after operation with the lip flap united completely and thus with much of her disfigurement remedied.

State Hospital, Junagar, Kathiawar.

Medical Societies.

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases.—President's Address.

THE first meeting of this society for the new session was held on Sept. 3rd. The officers for the year are Mr. C. J. Jacomb-Hood, President, and Mr. W. A. Bowring and Dr. L. A. Parry, honorary secretaries.

Dr. WALTER BROADBENT exhibited a case of Tuberculous Laryngitis and a case of Splenic Leucocythæmia. He also showed a skiagram of Cervical Ribs which had been diagnosed as an innominate aneurysm.

Mr. BOWRING showed for Dr. F. J. PALEY a case of Periosteal Sarcoma of the Thigh, which had necessitated amputation at the hip-joint.

The PRESIDENT then delivered his official address on Theology and Medicine, in which he considered "the obstacle which was presented to the progress of medicine for over 1000 years by the theological view of disease." Nothing in the evolution of human thought, he said, appears more inevitable than the idea of supernatural intervention in producing and curing disease. The causes of disease are so intricate that they are reached only after ages of scientific labour. In those periods when man sees everywhere miracle and nowhere law, when he attributes all things which

he cannot understand to a will like his own, he naturally ascribes his diseases either to the wrath of a good being or to the malice of an evil being. This idea was paramount in Egypt, Chaldea, Judea, and at first in Greece, where, however, there came later the first beginnings of a really scientific theory of medicine in the period of Æschylus, Phidias, Pericles, Socrates, and Plato, and in the person of Hippocrates, who quietly but thoroughly broke away from old tradition, developed scientific thought, and laid the foundations of medical science upon experience, observation, and reason. His method was passed on to the school of Alexandria, where studies in human anatomy began to be based by Herophilus upon dissection, the old prejudice preventing that method of anatomical investigation being cast aside apparently for ever. But with the coming of Christianity a new chain of events was started which modified this development most profoundly. The influence of Christianity was twofold: there was first a blessed impulse promoting self-sacrifice for the sick and wretched. Through all the succeeding centuries hospitals and infirmaries sprang up. Of these were the Eastern establishments for the cure of the sick at the earliest Christian periods, the Infirmary of Monte Cassino and the Hôtel Dieu at Lyons in the sixth century, the Hôtel Dieu at Paris in the seventh, and the myriad refuges for the sick and suffering which sprang up in every part of Europe during the following centuries. The second influence was hostile to the advance of medical science; it was a new and strong evolution of the old idea that physical disease is produced by the wrath of God or the malice of Satan, or by a combination of both, which theology was especially called in to explain, and from this were evolved theories of miraculous methods of cure based upon modes of appeasing the Divine anger or of thwarting Satanic malice. The attributing of great pestilences to unseen powers prevented any attention being paid to hygiene until the nineteenth century. The Black Death, the widespread epidemic of plague, in the fourteenth century was combated by evidences of devotion instead of by cleanliness. Large gifts of money, land, or privileges were made to churches and monasteries, images of saints and relics were paraded through towns, and processions of flagellants scourged themselves in the streets. The President proceeded to give an interesting summary of the progress of mediæval medicine from this viewpoint, laying stress on the alleged papal prohibition of dissection in Pope Boniface VIII.'s famous Bull concerning Crusaders' bodies, on the Jewish influence in the Salernitan school, and especially on the ill-requited revelation of scientific method by Roger Bacon in the thirteenth century, and the revolt of Vesalius in the sixteenth against ecclesiastical obstruction, in spite of the opposition of his own profession and of popular obloquy. The President gave an excellent sketch of the life of the great pioneer of anatomical discovery, who "to secure material for his investigations haunted gibbets and charnel houses, braving the fires of the Inquisition and the virus of the plague." The persecution of the Jews owing to their supposed immunity against disease due to Satanic protection were then reviewed, and finally the President concluded his interesting paper by showing that although Hippocrates in the fifth century B.C. and Paul of Egeria in the seventh century A.D. recognised insanity as a disease of the brain requiring definite treatment, the early Church revived the old superstition that it was a manifestation of demoniac possession which resulted in the terrible cruelties formerly inflicted on its victims, cruelties which were not abated until Pinel in France and Tuke in this country reformed the treatment of mental diseases.

THE CALEDONIAN MEDICAL SOCIETY.—The annual meeting of this society will be held in the Town Hall, Lancaster, on Friday, Sept. 17th, at 3 P.M., under the presidency of Dr. David Blair of that town. In addition to the presidential address, an interesting communication on "The '15 and the '45 in Lancaster" has been promised by Dr. H. McCalman, and the municipal charters and insignia of Lancaster will be exhibited and described by the town clerk, Mr. T. Cann Hughes, M.A., F.S.A. The annual dinner of the society will be held the same evening at 7.30 in the County Hotel, Lancaster. Several visits of interest in and around Lancaster have been arranged for the following day.

Reviews and Notices of Books.

A System of Medicine by Many Writers. Edited by Sir T. CLIFFORD ALLBUTT, K.C.B., M.A., M.D. Cantab., &c., Regius Professor of Physic in the University of Cambridge; and HUMPHRY DAVY ROLLESTON, M.A., M.D. Cantab., F.R.C.P. Lond., Senior Physician, St. George's Hospital, &c. Vol. V.: Diseases of the Respiratory System; Disorders of the Blood. London: Macmillan and Co., Limited. 1909. Pp. 969. Price 25*s.* net.

THE volume before us does not exactly correspond in contents with the former fifth volume, as apparently owing to increase of matter it deals only with diseases of the respiratory system and disorders of the blood, the affections of the heart and vessels being held over to the next volume. Diseases of the lungs now occupy 498 pages and those of the pleura and mediastinum another 171, 669 in all, compared with 378 devoted to this section in the last edition; the disorders of the blood occupy the last 280 pages as compared with about 150. The amount of new material is thus conspicuous, but allowance must be made for the inclusion in this volume of the articles on physical signs and on aero-therapeutics, as well as some material dealing with the mediastinum which formerly appeared in Vol. VI.

Turning to the individual articles, we find, as just noted, that Dr. Hector Mackenzie's contribution on the physical signs of the lungs and heart, and Dr. Theodore Williams's on aero-therapeutics are transferred to this volume—an improvement in arrangement. In writing on asthma and hay-fever Dr. J. F. Goodhart has had the assistance of Dr. E. I. Spriggs; the section is well treated, but the work of Dunbar on the use of an antitoxin in hay-fever is rather briefly dismissed. The sections dealing with bronchitis and bronchiectasis are by Dr. W. Ewart, as in the former edition; and a short account of new growths which affect the bronchi is given by Dr. J. J. Perkins, who also writes further on in the book excellent papers on abscess and gangrene of the lung.

The large subject of pneumonia is now divided between several authors. A distinction is drawn between acute lobular pneumonia and broncho-pneumonia, the former being merely an acute pneumococcal pneumonia which is lobular instead of lobar in distribution, the latter a catarrhal affection which spreads down from the bronchi. The section is written by Dr. A. P. Beddard and Dr. J. W. H. Eyre. Dr. Eyre's authority on all matters connected with the pneumococcus is universally recognised. In the clinical part Dr. Beddard's statements on the use of alcohol are notably courageous and practical: if the statement that this drug is "not a stimulant to the heart, the circulation or the central nervous system" seems an unduly dogmatic assertion of physiological theory, his conclusion that it is "the only food, except dextrose, which does not require digestion, it is readily absorbed, easily oxidised, and further it helps the appetite and aids digestion. ..... It is invaluable in infants ..... is a hypnotic, and is of use in combating the restless, excitable, and sleepless condition which is often difficult to deal with," should be read by all who have been led by too ardent apostles of total abstinence to avoid a most valuable remedy. Dr. P. H. Pye-Smith's article on lobar pneumonia has been revised by the two authors last named, and that on chronic interstitial pneumonia by Dr. J. Fawcett.

In writing on pulmonary tuberculosis Dr. P. Kidd has had the assistance of Dr. W. Bulloch, who deals with the pathology of the disease and with specific remedies, and of Dr. N. D. Bardswell, who discusses sanatorium treatment. The interpolation of the sections by the latter writers, along with the literature appended thereto, causes the whole

chapter to be rather inconveniently broken up for consecutive reading, but the matter is admirable. Syphilis and emphysema of the lungs are dealt with by Dr. J. Kingston Fowler, as in the former edition. Dr. Rolleston's article on aspergillosis has been revised by Dr. A. Latham, an instance of the junior editor's self-effacement, and Dr. F. T. Roberts and Dr. J. J. Perkins together write on new growths of the lung. A new and valuable article on pneumoconiosis is contributed by Sir T. Oliver.

Diseases of the pleura are treated under four heads. Dr. Samuel West writes on intrapleural tension and Professor D. W. Finlay on pneumothorax, as in the former edition. Dr. Samuel J. Gee's article on pleurisy has been revised by Dr. T. J. Horder, who gives a lucid account of recent pathological investigation in this field, and Dr. Roberts and Dr. Perkins write on new growths of the pleura. Diseases of the mediastinum now have a section to themselves, new growths and other diseases of this region being dealt with in two articles by Dr. Roberts, while a new article by Dr. W. C. Bosanquet is devoted to diseases of the thymus. This last suffers somewhat in regard to completeness owing to the arrangement by which the lympathic diathesis and consequently a large group of cases showing enlargement of the thymus gland are treated of in a separate article in a former volume.

In the section on disorders of the blood, Sir Clifford Allbutt still writes on chlorosis; Dr. Robert Muir on leucocythæmia, here called leukæmia in defiance of classical orthography; the late Sir Stephen Mackenzie on purpura; and Mr. W. Johnson Smith on scurvy. Pernicious anæmia is dealt with by Dr. H. S. French in an article which gives a good account of the theories which have been advanced to explain this puzzling disease, but he does not unfortunately consider any of them adequate. Indeed, beyond the probability that the affection is due to increased hæmolysis practically nothing is known, and recent researches in immunity have failed to throw light on the clinical problem. Dr. French postulates an unknown "toxin"—the word being, perhaps, unfortunate in that there is a tendency to restrict the use of this term to substances which are capable of giving rise to antitoxins, of which nothing is known in pernicious anæmia. "Poison" would, perhaps, have been a more non-committal term, and the existence of a perverted internal secretion or some similar product of metabolism is not impossible. The equally obscure group of affections known as splenic anæmia is discussed by Dr. R. Hutchison and Dr. J. C. G. Ledingham, while Dr. F. J. Poynton has assisted Dr. W. B. Cheadle in his article on scurvy in infants. A new article on polycythæmia and erythræmia is contributed by Dr. F. Parkes Weber, and one on enterogenous cyanosis by Dr. A. E. Garrod. Sir A. E. Wright deals with the subject of hæmophilia; he quotes interesting cases in which sufferers from this affection consumed wall-plaster and other forms of lime, as tending to support the view that there is in the system of these patients a lack of calcium salts.

The whole volume maintains the high standard which we are accustomed to expect in our leading medical text-book. In almost all instances a careful and thorough survey of medical literature, both of our own and of foreign countries, has been made, and valuable bibliographies are appended to the articles. We look for a high standard also of English writing in a book, one of whose editors has published an excellent work on English composition, and for the most part we are not disappointed, though it would not be difficult to pick out examples of faults condemned by Sir Clifford Allbutt which have passed through the editorial sieve. There are a fair number of illustrations, but we should have liked still more.

Diseases of the Organs of Respiration. By SAMUEL WEST, M.A., M.D. Oxon., F.R.C.P. Lond., Physician and Lecturer on the Principles and Practice of Medicine at St. Bartholomew's Hospital; Consulting Physician to the Royal Free Hospital and to the New Hospital for Women. Second edition, revised. London: Charles Griffin and Company, Limited. 1909. In two volumes. Pp. 958. Price 36*s.* net.

THE first edition of this work was published in 1902, and in our review of it in THE LANCET of Sept. 20th, 1902, p. 814, we explained the general plan adopted. The present edition has been carefully revised, but in some instances, particularly in the sections dealing with "phthisis," the latest researches have not been included, perhaps because this portion was written before the results of those investigations were made known. We again express the opinion that Dr. West would adopt a more modern and scientific attitude were he to employ the term "pulmonary tuberculosis" rather than the word "phthisis."

Dr. West draws attention to the acute controversy which has raged round the relation of human to bovine tuberculosis, and gives a good *résumé* of the arguments which have been advanced by the supporters and opponents of Koch's statement that bovine and human were different diseases and not communicable the one to the other. The more modern work on the subject seems to indicate that the difference between the two types is caused by the soil on which the specific organisms develop. The investigations conducted by the Royal Commission on Tuberculosis have clearly demonstrated that a very large proportion of tuberculosis contracted by ingestion is due to tubercle bacilli of bovine source, and that therefore stringent measures must be taken to prevent the sale or consumption of infected milk. A good account is given of the modes in which tubercle may be conveyed. The author discusses at length the relative importance of inhalation and ingestion. He shows that the intestinal route plays a far more important rôle in the production of human tuberculosis than has hitherto been recognised, and quotes with approval Calmette's opinion that in the immense majority of cases pulmonary tuberculosis infection is not carried by inhalation but by the ingestion of tubercle bacilli or of tuberculous material into the intestinal canal. The remarks on "direct infection from man to man" are of considerable interest. Dr. West arrives at the conclusion that though a communicable disease, pulmonary tuberculosis is either not at all or else in a very limited sense contagious, and that the risk to the healthy is very small. We think that this statement requires modification. The chance of infection by inhalation from man to man varies according to the environment. If due care is taken as to the disposal of the sputum and if the ordinary laws of hygiene are observed, the probability of infection is reduced to a minimum. But if the infected individual lives in a crowded apartment, where the sunlight rarely enters and dirty habits prevail, then infection by inhalation is very likely to occur.

When dealing with the treatment of pulmonary tuberculosis Dr. West hardly does justice to the more modern investigations. For instance, in discussing the results of sanatorium treatment he says: "Recently Dr. Paterson has introduced at King Edward's Sanatorium a system of graduated labour, which has been very successful. But it has its limitations, inasmuch as no patient commences the system at all until his temperature is steady and normal, and remains normal after muscular effort, so that it can only be applied to cases of complete arrest." This assertion does not accurately describe the form of treatment mentioned. In the first place, Dr Paterson elaborated his method, not at "King Edward's Sanatorium," but at the Brompton Hospital Sanatorium at Frimley. The system of graduated labour certainly has its limits, as has every other therapeutic measure,

but not in the way the author suggests. The word "graduated" indicates its essential factor, and the final stage might prove deleterious to the patient were he to be asked to use a heavy spade or pick before the preliminary stages had been duly passed through. Further, we cannot agree with the statement that, because the temperature of a tuberculous individual remains normal after muscular effort, therefore "complete arrest" has taken place. Numerous cases where the temperature does not rise after muscular exertion still have bacilli in the sputum, with other indications of the disease, and if those patients were to at once resume their ordinary mode of life a relapse would, in all probability, quickly be manifested. The beneficial effects of graduated labour have been shown to depend on auto-inoculation, of which no mention is made, and the results hitherto obtained are certainly satisfactory. We agree with the author that the real test of the degree of recovery is the working capacity, and in those patients who have been treated by this method this capacity is of a high degree.

In his summary of the results of sanatorium treatment some remarks are made which invite criticism. Dr. West states that "some sanatoria go so far as to regard any cases with definite physical signs, even if slight, as unsuitable." We are sure that he has a foundation for saying this, but we do not recognise the institutions. Indeed, in a sanatorium conducted on strict lines, no patient should be admitted who has not been definitely proved to be tuberculous, and persons "tubercle-prone" or suspected should be refused, or at any rate their cases must not be included in the statistics of the institution. We are quite in accord with the suggestion that for the complete treatment of pulmonary tuberculosis amongst the general population the following provisions would be required: "1. Sanatoria for early cases in which the disease is likely to be arrested. 2. Hospitals for pronounced cases in which the chances of arrest are small. 3. Homes for the incurable and dying."

We do not consider that Dr. West has given just due to the use of tuberculin. He states that "the dose employed is extremely small, from 1-1000 to 1-300 mg., but in many cases the results are said to be striking. At the same time failures are frequent, especially in any but the earliest cases, and at times grave exacerbations are apparently set up. It seems probable, therefore, that so far as phthisis is concerned the ultimate verdict on T.R., even with the help of the opsonic index, will be the same as that passed on the old tuberculin." Recent investigations have shown that doses of 1-100000 to 1-10000 milligramme, administered in accordance with the temperature range (which has been shown to vary inversely with the opsonic index) have yielded encouraging results. We trust, therefore, that Dr. West was premature in his remarks, and that in the next edition of his work he will be able to speak more hopefully of the value of vaccine-therapy in pulmonary tuberculosis.

A noteworthy section in the first volume is that on "suffocative catarrh," a term often used in a vague way to describe cases which have the two features in common—pulmonary catarrh and suffocative dyspnœa. A typical instance of this rare affection is described, and the bacteriological examination suggests that, in some instances at any rate, the exciting cause of the irritation may be a bacillus. This condition must be distinguished from capillary bronchitis and disseminated post-bronchitis broncho-pneumonia. In association with it may be placed (1) those cases of acute pulmonary œdema which develop in the course of chronic heart obstruction or of acute heart failure; (2) the cases of collateral fluxion and pulmonary failure which occur in connexion with pleural effusion and abdominal distension; and (3) those cases of pneumonia which commence with widespread pulmonary congestion. Dr. West has thus called attention to some interesting conditions which merit more attention than has hitherto been bestowed upon them.

The section on respiratory neuroses has been amplified; "grouped respirations" are described, a form of periodic respiration which the author considers should be kept distinct from the other more familiar form of Cheyne-Stokes breathing; the former, he says, occurs only in meningitis, and generally with the posterior basic form. Tracings are given of both varieties, which make the difference obvious. Another new section relates to the respiratory movements in hemiplegia. The cyrtometer tracings given show that the rounded shape of the normal chest is, in fact, the position of equilibrium between the two sets of intercostal muscles, and that it is lost in hemiplegia, when the thoracic muscles of the affected side are paralysed.

In our review of the former edition of this important and learned work we expressed the opinion, which we now repeat, that it will prove of value both to the practitioner and to the student. We have criticised what we consider to be some of the defects in the new edition, but we readily allow that some of these may be set down as expressions of opinion on matters where Dr. West can speak with the highest authority, whilst others may be remedied in a future edition by reference to the most recent investigations made in relation to diseases of the organs of respiration, especially as regards pulmonary tuberculosis.

A Text-book of Materia Medica; being an Account of the More Important Crude Drugs of Vegetable and Animal Origin. By HENRY G. GREENISH, F.I.C., F.L.S. Second edition. London: J. & A. Churchill. 1909. Pp. 640. Price 15*s.* net.

THE first edition of this book appeared in 1899 with the title of "Introduction to the Study of Materia Medica," and although the scope has been broadened, the less ambitious name seems appropriately to express the nature of the fare provided. The more comprehensive name is rather a misnomer, in spite of the limitation expressed in the subtitle. Like Portia's leaden casket, it rather threatens, but the nature of the contents carries on the resemblance in the relief of anxiety.

The author has much that is interesting to say of crude drugs, and he contrives not only to interest but also to instruct. In the first 20 pages will be found a brightly written account of the history of the collection of herbs for medicinal use, followed, as is fitting, by evidence of the commercial intercourse between different peoples owing to the development of trade in drugs. It is distinctly a happy thought to trace the influence of the leading facts of history, and even of racial antipathies, upon the supply and distribution of drugs. The routes by which drugs reach the London market also afford material of some interest; the modern prescriber is generally content with ordering the drugs he deems appropriate, with but little thought of the interest attached to the wide areas from which they have been derived, and the perils by land and water which they have undergone. The illustrations of original packages in which drugs reach this country, varying from neat wooden cases to large bales of matting, many with quaint cabalistic inscriptions, have an agreeable way of evoking reminiscences of Eastern travel. They form part of the poetry and romance of the drug trade, which are likely to be overlooked by those intent on actions, preparations, and doses.

The drugs of vegetable origin are dealt with in sections, according to the special part employed in medicine; thus separate sections treat of leaves, flowers, fruits, seeds, woods, barks, and so on. Such an arrangement of necessity leads to many strange juxtapositions, important and unimportant articles being described in quick succession, because they

happen to be derived from the same particular part of the plant. Even in the individual section it is not easy to grasp the principle of the order of the monographs; thus the section on leaves includes in turn tea, coca, buchu, jaborandi, and the forms of senna at the commencement, and at the end come henbane, foxglove, laurel, and matico. Apart from this question of arrangement there is much to praise in this volume. Professor Greenish is not content with a mere formal description; he also imparts much interesting information relating to the various processes by which the drug is prepared for the market. He gives the microscopical characters by which fragments may be readily recognised; a careful account of the constituents; an account of the adulterations, sometimes rather brief but sometimes very full, with illustrations to aid identification; and then finally a few lines concerning the uses. Lists of preparations and of their composition, together with questions of doses and modes of administration, do not enter into the scope of this book. The author strongly advises the student to make the study of crude drugs as far as possible a practical one, and he certainly has succeeded in presenting an attractive guide in which even the chemical details, by the lucidity of the formulæ, are encouraging and stimulating. The book is profusely illustrated with figures judiciously selected from various sources; most of the illustrations are excellent, and essentially modern, though a few err in depicting with botanical precision details which are of little practical value. In future editions it is to be hoped that the vague statements "reduced" or "magnified" will be replaced by a definite measure of the extent by which the figure differs from the natural size.

Although designed for students of pharmacy *and medicine*, we fear that the circulation is likely to be confined to the former. Medical students, who might with great advantage to their store of general knowledge make careful study of this volume, are so overburdened by their curriculum that they will scarcely study a book that is not directly and obviously a preparation for an examination. For students of pharmacy who desire to obtain an intelligent appreciation of drugs of vegetable and animal origin this book may be commended as the work of one who is so thoroughly master of his subject that he can stimulate interest in the most unpromising directions. Moreover, in spite of its clearness and fascinating style—it is sad that these qualities should so often be suspect in scientific literature—the book is thoroughly trustworthy.

Drugs and the Drug Habit. By HARRINGTON SAINSBURY, M.D. Lond., F.R.C.P. Lond., Senior Physician to the Royal Free Hospital, &c. London: Methuen and Co. 1909. Pp. 307. Price 7*s.* 6*d.* net.

As the author tells us in the introductory section, "this treatise does not aim at being a text-book; its purpose rather is to look at the essentials of the task which disease sets and drugs undertake." In other words, it is an attempt to set out in popular language the theory or theories underlying medical treatment by drugs. Indeed, it goes somewhat beyond this mark, and deals in passing with other aspects of treatment, as, for instance, faith-healing and suggestion, into which drugs scarcely enter. Taking the chapters seriatim, we have first one giving a short account of the historical development of the healing art, ending with a criticism of the follies of modern homœopathy. The second chapter attempts to supply some definitions, and incidentally shows how impossible it is to draw a distinct line between food and drugs. The following two chapters deal with the objective of drugs and the rational basis of treatment by their means; and the two next are devoted to the psychical basis of this treatment and to the influence of suggestion and ideation. The therapeutics of pain claim a separate chapter, which is followed by two dealing with the various medicaments, old and new. The concluding five chapters are devoted to a consideration of habits, and their prevention, control, and cure. In respect to the suppression of alcoholism, the author comments favourably on the Gothenburg system, though he admits that it has certain defects. He does not appear to be so much impressed, as we believe most persons are who have studied our own legislation, with the failure that has resulted from undue insistence on the liberty of the individual, and with the consequent absence of any means of compelling the drunkard to undergo a sufficient period of treatment in a suitable institution.

Written primarily, it would seem, for the lay public, this book may yet with advantage find readers among members of the medical profession who appreciate a clear account of the principles upon which their work is carried on. It is written in a pleasant style and contains many shrewd reflections, apposite quotations, and words of practical wisdom.

Reports and Analytical Records
FROM
THE LANCET LABORATORY.

PITUITARY (INFUNDIBULAR) EXTRACT.
(BURROUGHS, WELLCOME, AND CO., SNOW HILL BUILDINGS, LONDON, E.C.)

UNDER the distinguishing mark "Vaporoles" Messrs. Burroughs, Wellcome, and Co. have now added to the list Infundibular Extract. It is contained in hermetically sealed miniature flasks, in which it is kept stable and sterile. As is well known, extract of the pituitary body produces when injected intravenously a large rise of blood pressure comparable with that produced by suprarenal extract. The organs which appear to be particularly sensitive to the action are first the uterus and then the arteries and the spleen. Pituitary extract has been used in place of ergot in obstetrics; it also causes a marked increase in the rate at which urine is excreted.

MILK STOUT.
(MACKESON AND CO., THE BREWERY, HYTHE, KENT.)

The claim is made in regard to this malt liquor that the replacement of the ordinary brewing sugars with a certain proportion of milk sugar is an advantage, because milk sugar is unfermentable and therefore does not split up into alcohol and carbonic acid gas. The addition of lactose reduces the output of fermentation products, and that seems to us to be a favourable point, but we do not think that by the mere addition of a single constituent of milk the description milk stout is deserved. Directly, there can be little dietetic advantage gained, and milk would be a feebly nourishing fluid if it only contained sugar. We confirmed the presence of milk sugar by the phenyl-hydrazine test. The stout was in good condition and the flavour was excellent, while there was no undesirable excess of carbonic acid gas. The alcohol amounted to 5·78 per cent., the extractives to 8·15 per cent., the mineral matter to 0·35 per cent., and the reduction of Fehling's solution amounted to 6·50 per cent. of sugars calculated as maltose, but of which 2·5 per cent. was due to lactose.

CHINA TEA.
(THE CHINA TEA ASSOCIATION, CHESTERFIELD HOUSE, 98, GREAT TOWER-STREET, LONDON, E.C.)

We have received a sample of the new season's China teas from the above association, and we quite agree that the new season's growth is of remarkably good quality. It seems to

us that the flavour is more marked than usual, a point which many tea-drinkers will appreciate who regard China tea as producing at best a thin featureless beverage. In spite of this increased flavour the tea produces a smooth non-astringent liquor. From the point of view of the palate, the difference between good China tea and Indian tea may be compared with the difference between a fine elegant claret and a full and perhaps rough Burgundy.

TIDMAN'S SEA SALT.

(TIDMAN AND SON, LIMITED, BUSHELL-STREET, LONDON, E.)

There are no doubt different constituents in the salt obtained by the evaporation of sea water and the salt obtained by the evaporation of the brine pumped from salt mines. The question whether these differences are of any therapeutic importance has been debated. The events of the past few years have, at any rate, shown the importance of the rare constituents of natural mineral waters. Tidman's sea salt is not pure salt, just as sea salt is not pure salt, for it contains besides sodium chloride the chlorides, bromides, and iodides of the alkaline earths.

THYRESOL.

(THE BAYER COMPANY, LIMITED, 19, ST. DUNSTAN'S-HILL, LONDON, E.C.)

Thyresol is described as a methyl ether of santolol which has therapeutic advantages over that drug. Thyresol is stated to possess powerful antiseptic properties while it is relatively non-toxic. It is said to be free from those unpleasant effects, such as disturbance of digestion and of the kidneys, which sandal-wood oil occasions in some patients. Combined with thyresol is a mild aperient which has obvious advantages, having regard to the disease in which thyresol is said to give relief.

TREXTA.

(GALE AND CO., 15, BOUVERIE-STREET, LONDON, E.C.)

The name "Trexta" has been given to a series of preparations of concentrated tinctures, alcohol being omitted as far as is practicable. The samples we have examined are certainly elegant pharmaceutical preparations. When alcohol is indispensable, as in the case of resinous matter contained in tolu and benzoin, a satisfactory emulsion is gained with an aqueous medium. The concentrations in most cases are such that one ounce of the trexta made to three ounces with alcohol or glycerine or water yields a tincture of corresponding strength to that of the Pharmacopœia. For the purpose of dilution "trexta diluent" is supplied which is composed of glycerine and chloroform water, some preservative in the absence of alcohol being essential to check fermentation. In addition to this interesting series of concentrated tinctures we have also received a specimen of a concentrated antiseptic mouth-wash known as "Entrapuro." It is extremely pleasant to use and is effective as an antiseptic.

CARIBBE LIQUEUR.

(THE WEST INDIAN PRODUCE ASSOCIATION, 4, PENCHURCH-BUILDINGS, LONDON, E.C.)

This liqueur is stated to be made from an old West Indian receipt which includes a matured rum, limes, and cane sugar. The combination is quite agreeable to the taste and we have no doubt that the description of the liqueur is correct, judging from the following results of analysis: alcohol by volume, 26·04 per cent.; extractives, chiefly sugar, 29·50 per cent.; citric acid, 0·476 per cent.; and mineral matter, 0·05 per cent. It is well known that genuine rum contains a remarkably high proportion of ethers, and some proof is afforded of the statement that genuine old rum has been used in this liqueur since the ethers were found to amount to 155 parts per 100,000 parts of alcohol present. Thus the liqueur contains twice the amount of ethers present in genuine brandies.

FAZENDA COFFEE.

(STATE OF SAN PAULO, BRAZIL, PURE COFFEE COMPANY, LIMITED, 62, KING WILLIAM-STREET, LONDON, E.C.)

Brazil is taking the lead in regard to supplying the world with coffee, the production in that country having grown enormously of recent years. Judging from the sample sent us from the above company the coffee is of excellent quality, and such as to compare most favourably with the classic article produced in the Eastern countries. The coffee is singularly rich in coffee oils which give to coffee its well-known attractive flavour and also account to some extent for its stimulating properties. Fazenda coffee also contains a comparatively high percentage of caffeine (according to our analysis 1·5 per cent.), to which more definitely the particular physiological effects of coffee may be ascribed.

OATMEAL STOUT.

(CROWLEY'S BREWERY, CROYDON.)

This stout is a good example of its kind and contains an important amount of protein in the extractive matters doubtlessly derived by the careful employment of oats in the brewing. The total extractive matters amounted to 6·10 per cent., and 10 per cent. of this amount proved to be due to protein. Besides there was an abundance of soluble phosphates present. There is no doubt that this malt liquor would be used with advantage as a nutritive aid in some cases under, of course, the direction of the medical man. The alcohol amounted to 5·78 per cent. by volume.

OXYGENIA WATER.

(THE OXYGENIA SYNDICATE, 20, LAWRENCE-LANE, GRESHAM-STREET, LONDON, E.C.)

Oxygenia water is a pleasantly sparkling water which is said to be charged with oxygen in addition to carbonic acid gas. The idea, of course, is not new, for we have examined and reported upon oxygenated waters previously. There is little doubt that the presence of oxygen gives some advantage and it certainly gives "life" to the taste of the water. According to our experiment, however, oxygenia water might contain more oxygen with advantage. Thus, when the gas first evolved was examined over mercury, it was found to contain only 0·60 per cent. of oxygen. When the gas evolved, after the bottle had been opened some minutes, was examined, the oxygen amounted to 1·39 per cent. We should say that such a small proportion of oxygen gas can give the water little advantage over an ordinary aerated water.

VACCINATION IN THE WEST OF ENGLAND.—The vaccination returns of the Gloucester board of guardians, which have been recently issued, state that for the half-year ended December, 1908, 721 births were registered; of these, only 227 had been vaccinated, or 31·4 per cent. There were 333 statutory declarations of conscientious objections, 54 died unvaccinated, 60 cases were postponed, and there were 47 removals.—At the meeting of the Barnstaple (Devon) board of guardians held on August 27th a member complained of the cost of vaccination. During the last eight years, he stated, £3000 had been spent by the Barnstaple guardians, and he considered that this money had been entirely thrown away. He moved a resolution to the effect that compulsory vaccination could be safely abolished, and that this would afford considerable relief to the ever-increasing burdens of the ratepayers. A long discussion followed, and eventually the proposition was defeated by one vote, nine voting for and ten against.—The vaccination returns of the Axbridge (Somerset) board of guardians show how the "conscientious objector" is on the increase in the West of England. The Axbridge union includes Weston-super-Mare, Burnham, and Blagdon. The report shows that for the six months ended December, 1908, 481 births were registered, and of these 201 were successfully vaccinated and 205 had exemption certificates.—In the Bristol union for the six months ended December, 1908, 4099 births were registered; of these 2086 were successfully vaccinated and 518 certificates of conscientious objections were granted.

THE

BRITISH MEDICAL ASSOCIATION.

SEVENTY-SEVENTH ANNUAL MEETING AT BELFAST.

THE SECTIONS.

THERAPEUTICS AND PHARMACOLOGY.

THURSDAY, JULY 29TH.

President, Professor R. STOCKMAN (Glasgow).

Professor W. E. DIXON (Cambridge) and Dr. H. H. DALE (London) gave a demonstration on the

Action of the Pressor Substances in Putrid Meat, Placenta, and Ergot on the Surviving Mammalian Organs—Heart and Uterus.

Dr. DALE, in reviewing the history of the recognition of these substances, said that it was to Abelous that they owed the observation of the effect upon the blood pressure of certain substances in putrifying meat. Later, Professor Dixon and Dr. F. E. Taylor had found a similar adrenalin-like action in extracts of placenta, and Rosenheim showed that in all probability this action was not present unless a slight amount of putrefaction had taken place. More lately, his chemical colleagues, Barger and Walpole, had isolated two substances, both of which exercised this action, to which the names iso-amylamine and para-hydroxylphenylethylamine had been given. Their chemical structure closely resembled that of adrenaline. These bodies had also been obtained by adding a culture of micro-organisms obtained from human fæces to a solution of broth containing tyrosin. It was not unlikely that they were actually formed in the body in cases where there was stagnation of the flow of the intestinal contents. The substances were also found in the liquid extract of ergot, and they came to the conclusion that the activity of the liquid extract was due to them. Similar bodies were produced in the ripening of cheese and in the manufacture of cod-liver oil by the old method.

Professor DIXON then demonstrated the action of the drug upon a rabbit's heart perfused through the coronary arteries with Ringer's solution. A small dose caused marked acceleration and increased amplitude of the beat. Later he injected adrenalin and compared the results recorded. The substances in question had a similar action to adrenalin, differing only in two points: (*a*) the action was much more prolonged, and (*b*) the effect was produced when the drug was given by the mouth. Dr. Dale had himself taken a considerable dose by the mouth, and his blood pressure had undergone a great and long-continued rise. The point of action of the drug was the same as in adrenalin, at the peripheral endings of the sympathetic nerves. Dr. Dale showed in a pregnant uterus of the cat that the drug caused a marked contraction and rise of tone.

Dr. J. C. MCWALTER (Dublin) said that it was interesting to note that alcoholic extracts of ergot were clinically inert, while ordinary fluid extracts of ergot underwent a kind of auto-infection. Even when the fluid extract had undergone apparent decomposition it remained as active as ever. This suggested some identity between its active principle and that of putrid meat.

Dr. H. C. CAMERON (London) said that the use of adrenal extract to combat the symptoms of Addison's disease had been disappointing because of the rapidity with which the effects of the drug passed off, and because it was impossible to give the drug by the mouth. It was in just these two points that the action of the drug under discussion differed—it could be given by the mouth and its action was slighter but longer sustained.

Professor BENJAMIN MOORE (Liverpool) read a paper entitled

"*A New Member of the Saponin-digitalin Group, its Chemistry and Physiological Action.*"

He associated in the work the names of Dr. F. W. Baker Young and Miss S. C. M. Lowton (Liverpool). He was able to demonstrate the action of the drug upon the mammalian heart to the meeting, making use of the apparatus which had been used by Professor Dixon. The substance had been obtained from the seeds of Bassia longifolia, popularly known as mowrah seeds, which were largely used in the manufacture of the better class of soaps. The glucoside isolated from these seeds had an intensely irritating action locally upon a cut surface or when it reached the mucous membrane of the nose or throat or the conjunctiva. It was while investigating certain cases of sore-throat, conjunctivitis, &c., among those engaged in manipulating the meal after the expression of the oil, that his attention had first been called to the substance. He did not think it was as well known as it ought to be that the local action of digitalis was also highly irritative. It was easy to obtain the active substance in a state of purity by taking it out in a saturated alcoholic solution from the meal, decolourising with charcoal, precipitating with excess of ether, filtering, and drying in the desiccator over sulphuric acid. This process, repeated three or four times, yielded a pure white product, analysis of which showed it to consist of carbon (51·9 per cent.), hydrogen (6·85 per cent.), and oxygen (41·25 per cent.), without a trace of nitrogen. It was a glucoside yielding one third its weight of glucose, which was found to be a hexose yielding typical glucosazone crystals. One-third, approximately, consisted of an organic acid, which had been called mowric acid, and which possessed all the active properties of the mother substance. This acid is readily soluble in alcohol and insoluble in water. It can be obtained in a state of purity but has not yet been obtained in crystalline form. Its sodium salt, which is soluble in water, gives, like the glucoside, a solution possessing all the physical and many of the physiological properties of a soap solution. Although the salts of the separated mowric acid are strongly hæmolytic, this action is much more intense in the case of the glucoside. In this respect it is equalled only by saponin. The digitalis-like action of the drug upon the isolated mammalian heart when used in very dilute solutions was very striking, and was illustrated by tracings. The force of the beat was increased and the heart slowed.

Dr. F. J. CHARTERIS (Glasgow) read a paper entitled

"*The Effect on the Leucocyte Count produced by Thiosinamine Injections, Lecithin, and Nucleinate of Soda.*"

He said that in 1892 Hebra advocated the use of thiosinamine in lupus, claiming that it prevented the formation of cicatrices. In 1902 Teleky began to use the drug in cicatricial contractions of the gut and claimed good results. Merck in 1904 introduced a soluble double salt under the trade name of fibrolysin, and from that time it had been largely used and the most extravagant claims made for it in practice. The preparation consisted of two molecules of thiosinamine combined with one molecule of sodium salicylate, was soluble in water, and non-irritating. It had been recommended for use in Dupuytren's contraction, obstruction to the pylorus or in the intestine, in urethral stricture, in arthritis, in myositis ossificans, in locomotor ataxia, and in optic neuritis. No claim was made that it removed fibrous tissue. Its advocates only asserted that it softened cicatrices in such a way that they might be more readily stretched. He had used thiosinamine in a number of different conditions. His experience did not substantiate the glowing accounts of other observers; he had never seen any benefit result. In cases of fibrous ankylosis of joints inunction, injection, and oral administration had alike been useless, though carried out for several months. He had combined the treatment with massage and with rupture of the adhesions under an anæsthetic. In animals poisoned by thiosinamine there were marked fatty changes in the epithelial and glandular cells but no alteration in the fibrous tissue. It had been often suggested that thiosinamine acted by causing some alteration in the blood, probably through the agency of the white cells. He had inserted sterile glass capillary tubes, containing the drug in solid form and in solution, into the peritoneal cavity of frogs, but had found no evidence of a positive chemiotaxis. In no instance could the presence of leucocytes be demonstrated in the tubes. He himself had taken large doses of thiosinamine (six grains), and had found no alteration in the total or differential count of the leucocytes. The maximum result obtained was in a patient suffering from chronic rheumatoid arthritis. At 11 A.M. the white blood cells were 5200 per cubic millimetre when 2·3 cubic centimetres of fibrolysin were injected, and at 5 30 P.M. they numbered 10,400. Such cases were rare. The counting was continued in some cases for 48 hours.

The PRESIDENT spoke of the great utility of such work

as Dr. Charteris had done at a time when extravagant claims were often made for proprietary articles.

Professor DIXON read a paper entitled

"Facts and Fancies in Pharmacology."

He said that many of our explanations of disease and of the action of drugs were not dependent upon sound physiological experiment. We had all been brought up in a school of dogmatism and taught to accept certain statements as proven. The length of time occupied in the teaching of anatomy and of materia medica dated back to an age when these formed almost the whole of the preliminary training of the student. We no longer collected our own simples or prepared our galenicals, and yet we had not materially altered our teaching. In this way a useful knowledge of the true action of drugs was excluded. Tradition still endowed certain drugs with actions which they did not possess. Opium was devoid of local action, yet there were in the Pharmacopœia three preparations for local application. Hydrocyanic acid was prescribed for the local relief of gastric pain in doses far too small to have any action at all. In the case of digitalis, modern research had succeeded in altering the accepted views. In 1851 Neligan stated that digitalis enfeebled the action of the heart, and this was at the time generally accepted. The same could not be said in the case of ether and strychnine. Neither had any direct stimulatory action on the heart as was often supposed and taught. Belladonna had no action in stopping the secretion of milk, for atropine could only act upon nerve endings, and the mammary gland was without nerves. Salts of potash were regarded as depressant, yet vegetarians were accustomed to take as much as 80 grains per diem. Potash was only poisonous in a certain concentration, and experiments which he had carried out showed that when given by the mouth it was excreted more rapidly than it was absorbed, so that the concentration in the blood increased very little. Calcium given by the mouth is also slowly absorbed and rapidly excreted. Injected under the skin, on the other hand, it may have a powerful effect in increasing the coagulation time of the blood.

Dr. J. C. MCWALTER, in a paper entitled

"The Regulation of Quack Medicine Traffic,"

said that since the British Medical Association last met £2,400,000 had been spent on quack medicines in Great Britain and Ireland. The gain to the Government had been £300,000. The concurrence of the Government in this traffic had become a national scandal. Other countries had been careful to legislate on the matter and the colonies were grappling with the problem. The solution of the trouble was that makers of nostrums should be compelled to set forth the ingredients on the label. To attain this an Act of Parliament would be necessary, and he feared that the profits of the Government were too large to render it likely that it would so legislate. He thought that the greatest service had been done by the British Medical Association in publishing, as it had recently done, the composition and cost of certain of the most widely advertised drugs. He regretted that it was difficult to bring these results before the public because newspapers, whose advertisement columns were profitably filled by the proprietors of secret remedies, were little likely to join in the crusade. He believed that the best means of attack was by coöperation with the medical officers of health. Already a notable beginning had been made in Liverpool, where Dr. E. W. Hope had prosecuted a proprietor of a patent medicine. He was charged under the Sale of Food and Drugs Act for selling drugs not of the nature, substance, and quality demanded, and a conviction was obtained. If such action became general, and the publication by the Association of the composition of so many unduly advertised drugs had made that possible, he thought that much might be done to control the traffic.

FRIDAY, JULY 30TH.

Dr. H. D. ROLLESTON (London) opened a discussion upon

The Treatment of Œdema.

He adopted the following classification of œdema. 1. The œdema of venous obstruction and cardiac disease, primarily mechanical and due to hydrostatic factors, as was partly shown by the influence of gravity. Hydræmia and malnutrition of the capillary endothelium were active agents also in its production. 2. Renal dropsy, though sometimes mainly cardiac, as in granular kidney, was in its proper sense of complex pathology. Toxic factors were probably predominant, but hydræmia and retention of chlorides must also be taken into consideration. 3. Toxic œdemas other than those due to manifest renal disease. For example, the œdema sometimes seen in infective diarrhœa in children, and the critical œdema seen in rare cases in pernicious anæmia. 4. Inflammatory œdema. 5. The œdema due to thrombo-phlebitis depending on venous and lymphatic obstruction. 6. Œdema due to lymphatic obstruction. 7. Œdema due to nervous factors: (*a*) œdema associated with peripheral neuritis and beri-beri; and (*b*) hysterical œdema. 8. Œdema of doubtful origin—e.g., chronic trophœdema, sometimes known as Milroy's disease. He would confine himself to the treatment of cardiac and renal œdema. 1. In cardiac dropsy, although primarily of mechanical origin, the treatment was sometimes rendered difficult because a toxic factor, from intestinal toxæmia or renal insufficiency, might be added. The mechanical breakdown was to be met by rest and by the use of digitalis. Professor Dixon had shown that samples of the tincture of digitalis may be devoid of any active principle, and it was therefore important to choose the preparation with care. He recommended the fluid extract of the drug. Nativelle's granules were also often successful, as was the combination of caffeine and digitalis recommended by Sir James Barr, or a similar combination of theocin or diuretin with digitalis. Theocin acetate was less irritating and less likely to produce vomiting than theocin. Baillie's pill had a deserved reputation. The restriction of fluid to 25 or 30 ounces in the 24 hours was an important part of the treatment. The restriction should be gradual and progressive so as to avoid thirst and constipation. The intake of salt should also be limited and gentle massage was often useful. 2. The complicated pathology of renal dropsy made it difficult to estimate the effects of treatment, and sudden improvement might be independent of treatment. He quoted three cases in which sudden diuresis and disappearance of dropsy had set in apparently independently of the treatment adopted. In four days in this way a patient had lost four stones and three pounds in weight. The very rapid absorption of a large amount of œdema fluid was a possible source of danger and might cause uræmic symptoms. The occurrence of dropsy might thus be regarded as a conservative process. He believed that this was true in acute nephritis. Toxins in the circulation damaged the walls of the capillaries and so led to transudation of fluid. Removal of these toxins might be attempted by free drinking and the copious fluid regimen, especially milk, might be combined with purgation. But this plan would not succeed if the kidneys were incapable of dealing with the increased amount of fluid. There was a danger of hydræmia resulting. Copious drinking should be avoided in acute or subacute nephritis. The use of diuretics required care, for the kidneys might be unable to respond or might be irritated by the diuretic drug. Caffeine he had found more successful than diuretin or theocin. He believed that greater benefit followed the removal of fluid by means of hot-air baths than by means of restricting the intake of fluid. The most satisfactory way of removing the toxins was probably by incising the legs. He recommended a single incision on the dorsum of the foot. No hard-and-fast rule could be laid down as to the restriction of fluid. In some cases the kidneys could only deal with a small amount of fluid, and unless the intake was curtailed hydræmia resulted. In other cases the kidneys could deal with an increased ingestion of fluid. That chlorides might be retained in cases of parenchymatous nephritis was undoubted, but it was not proved that in all cases the relation of cause and effect was the same. In some cases the chloride retention was caused by the dropsy, in others it was itself the cause of the dropsy. It must be clearly recognised that a salt-free diet was often disappointing.

Sir JAMES BARR (Liverpool) said that he divided œdemas into the following two great groups: (*a*) Those in which there was abnormal transudation from the capillaries without apparent obstruction in the absorbents, as in inflammation, in vaso motor paralysis, in anæmia, in Bright's disease. (*b*) Those in which there was obstruction to the return current, whether local or general, such as the occlusion of a vein or lymphatic, portal obstruction from mitral or tricuspid disease, or obstructive lung disease. The treatment of œdema was theoretically one of the simplest problems in

medicine. All that was necessary was to remove the cause and to restore and maintain the balance between intake and output. It was in the removal of the cause that difficulties began.

Dr. W. S. LAZARUS-BARLOW (London) said that he apologised for speaking on the present occasion, because it was 15 years ago that he had made his experiments upon œdema, and from what he had heard that day the question appeared only to have grown in complexity. He would confine himself to the so-called mechanical œdema. Pressure as such was unable to increase the outflow of fluid from the capillary wall; indeed, since the skin, in comparison with the walls of the capillaries and lymphatics, might be regarded as a rigid wall, he thought that any increased capillary pressure would of necessity increase the pressure within the lymph spaces outside the capillaries. An increased outflow of more highly albuminous lymph was said to be due to the so-called increased "permeability" of the capillary wall. But the only evidence of this increased "permeability" was this same character of the lymph. It was a glaring instance of reasoning in a circle. He adhered to his original view that the fundamental causes of œdema were starvation and poisoning of the tissue cells. He spoke favourably of Sampson Handley's operation of lymphangioplasty for œdema of the arm in carcinoma of the breast. At the Middlesex Hospital he had seen marked relief follow the operation in several cases.

Dr. CHARTERIS briefly referred to the limited value of diuretic drugs in the treatment of renal œdema. Diuretin, he thought, was more reliable than caffeine in stimulating the kidneys in disease. He emphasised the fact that in renal disease mercury, even in small doses, was badly borne and readily produced salivation. As a preliminary to the introduction of Southey's tubes he recommended that the skin should be disinfected and then painted with a solution of zinc-ichthyol, gelatin, or some other impervious dressing, and that the tubes should be inserted through this coating. This plan had been of value in preventing infection at the seat of puncture.

Sir LAUDER BRUNTON (London) said that he had found benefit in cardiac cases from a salt-free diet. Many years ago he had repeated Ranvier's experiments of ligature of the renal vein, which showed that while venous obstruction alone would not produce œdema, dropsy followed if the vaso-motor nerves also were divided. The nervous element in the production of œdema was well shown in some cases of angio-neurotic œdema. In a case of ulcerative endocarditis he had involuntarily produced acute generalised œdema by the injection of antistreptococcal serum. Calmette had found that the addition of lecithin to cobra venom conferred on it a hæmolytic power like that of viperine venom, and that suggested that possibly in the future we might be able to convert any œdema-producing toxin into one which had a contrary action.

Dr. CAMERON said that he thought that sufficient praise had not been given to the salt-free diet as a method not of treating nephritis but of combating œdema. In many cases of nephritis the daily curve of the body weight followed so closely the curve indicating the retention of sodium chloride in the body that the correspondence could not be accidental. He emphasised the importance of recording the body weight as the only accurate means of estimating the subsidence or increase of œdema. It was generally held at the present time that diaphoresis was a more potent means of removing œdema than purgation, and active purgation had to a large extent been abandoned as routine treatment. It was interesting to note that while the sweat was rich in sodium chloride, analysis of the fæces revealed only traces of the salt.

Dr. W. C. SILLAR (Edinburgh) drew attention to a possible cause in some cases of œdema being the absorption of toxic substances from the intestine. The advantage gained by clearing the intestine, the efficacy of fasting and a low diet, and the rapid absorption of calomel in some cases from the intestine gave additional proof that at times the condition was caused by absorption of toxic products from the intestine, and in treatment this possible cause must not be overlooked.

The PRESIDENT, replying in the absence of Dr. Rolleston, said that it was very difficult to estimate the effect of treatment. Statistics were useless, for the pathological conditions were so varied. Cardiac œdema in its lesser forms was so transitory and so easily relieved by rest that he could not think that its occurrence in these cases bespoke any severe condition of toxæmia. He agreed with what Dr. Charteris had said that œdematous patients were intolerant of mercury.

Dr. ROBERT MAY (Belfast) read a paper entitled

"*The Action of Cresotinic and Toluic Acids, with Notes on the Treatment of Acute Rheumatism with Cresotinic Acid.*"

He referred to previous researches and pointed out that former investigators had worked with impure acids. His own experiments showed that cresotinic acid had an action closely resembling that of salicylic acid, while toxic symptoms were less readily produced.

Sir LAUDER BRUNTON said that the paper was interesting as giving a new and possibly useful remedy in rheumatic fever. It was also a valuable contribution to the relationship between chemical constitution and physiological action.

ANATOMY AND PHYSIOLOGY.

THURSDAY, JULY 29TH.

President, Professor C. S. SHERRINGTON (Liverpool).

A joint meeting with the Section of Obstetrics was held in the Physiology class-room.

Dr. A. LOUISE MCILROY (Glasgow) gave a demonstration on the

Development of the Epithelial Elements of the Ovary.

Dr. McIlroy referred to information yielded by material from the pig, the dog, the rabbit, the cat, and the human subject, the material having been obtained from the ovaries of embryos and very young animals. Photographs of microscopic sections and diagrams illustrating the developmental changes were shown as lantern pictures. It was pointed out that both ova and follicle cells were derived from germ cells. The changes undergone by the ova as they passed from the surface of the ovary to its depths, including changes in the arrangements of the chromatin masses in filaments, &c., were described and shown. So, too, the gradual investment of the ova by follicle cells to form young Graafian follicles was shown. Dr. McIlroy in different sections had found collections of cells which seemed to be examples of Pflüge's tubules. These proved to be groups of follicle cells surrounding clear spaces from which ova had dropped out.

Dr. DAVID WATERSTON (Edinburgh) recommended the ovary of the adult cat for study, because this yielded examples of all stages of change. He had investigated the subject with respect to the origin of the zona pellucida. He regarded this as probably derived from a filamentous meshwork in the periphery of the ovum, formed by delicate branching processes of the surrounding "nurse" cells which were metamorphosed follicle cells.

The PRESIDENT in opening a discussion on the

Function and Distribution of the Deep Afferents,

referred to the slightness of our knowledge of the subject. He said that the old classification of afferent nerves was (1) visceral and (2) somatic. Of somatic afferents those from the skin were fairly well known in their relations to the economy of the body. Others were only obscurely known. Moreover, of visceral afferents many were surface afferents in origin, but subsequently came to be placed deep in the body. With regard to the different kinds of stimuli to which afferents responded and their effects, it might be observed that conscious sensation was experienced on the surface of the body exposed to the ordinary agencies of the outer world. In the mouth—a zone intermediate between the last and the following region—the stimuli ordinarily perceived were not only those of ordinary sensation, but also those of taste and smell. In the alimentary canal beyond the mouth conscious sensation normally ceased. Any sensations "felt" there, such as of temperature and of pain, were only evoked by unusually severe stimuli. Here the afferents serve another purpose: by responding to chemical stimuli they, by reflex action, affect digestion—e.g., by promoting the secretion of gastric juice. Again, stimuli arising in the alimentary canal and affecting the afferent nerves there can evoke peristalsis. Langley's experiments showed that this did not depend on the sympathetic ganglia, for a loop of bowel entirely isolated from these still manifested peristalsis. The same effect was shown as regards the central nervous system. Here

peristalsis was probably controlled by the nerve plexus in the gut wall, and the local afferents transmitted stimuli. Different kinds of stimuli could evoke these alimentary responses, and different apparatus were found in nature to record them. Thus Herrick had found that in certain fish gustatory stimuli are effective all over the body surface. So, too, chemical stimuli all along the digestive tract would evoke responses and could no doubt coördinate the actions of different organs. This could be brought about by certain substances formed in the digestive system which were absorbed into the blood and excited other organs to act either through the nervous system or by direct action. With regard to the vexed question of visceral pain, he (the President) referred to the conflicting views which had been and continued to be held as to the existence of visceral sensibility. The old view, based on Haller's work, was that the viscera are insensitive to pain. This was opposed by J. Müller. Among recent observers Dr. Head and Dr. Ross appeared to assume that the viscera possess sensibility. Lennander, as the result of recent experiments, thought that the abdominal viscera and the parietal peritoneum are insensitive, but that the subserous layer of the latter and of the root of the mesentery is highly sensitive, and is responsible for so-called visceral pain. Meltzer of New York, from observations on the human subject and lower animals, holds that the viscera are sensitive, and when inflamed highly so. For these conflicting observations no explanation was as yet available. It was known that stimuli applied to viscera can occasion certain reflex effects—e.g., changes in blood pressure, through the sympathetic, and contraction of abdominal muscles. But whether there were sensation or no was not determined. Mackenzie, who denied that the viscera are sensitive to pain, described the pain felt as a *referred* pain. Thus he attributes the pain in pleurisy to a cramp of the thoracic wall muscles and not to the subpleural nerves. As to the mechanism of referred pain, Mackenzie considered that visceral afferent nerves conveyed stimuli to the spinal cord. These gave rise to an increased excitability there of the deep ends of nerves connected with certain skin areas. Head, who produced herpes zoster by irritation of sympathetic ganglia, thought that afferent stimuli might excite other nerves in the sympathetic ganglia, but as the area of referred pain did not correspond to the segmentation of the sympathetic he subsequently assigned this action to the central nervous system. It should be observed, however, that referred pain affected one or more patches of skin and not the entire cutaneous zone corresponding to any segment of the spinal cord. In considering the subject of afferent nerves it was important to observe that the nature of the stimulus affected the result obtained. It was as if certain nerve-endings were attuned to certain kinds of stimuli and irresponsive to others. This distinction was observable even with regard to different varieties of mechanical stimuli—e.g., pressure and pulling strain, &c. Of the deep afferents from viscera, the best known were those from the heart—e.g., the depressor nerve. This nerve originated at the aortic root, not in the heart itself, and was responsive to mechanical stimuli due to straining and stretching. These stimuli would occur markedly in states of high arterial tension, and hence through the depressor the aorta would be relieved by the consequent lowering of blood pressure. This led to the consideration of the rôle of the deep afferents in the control of muscle tonus. Of this branch of the subject very little indeed was known—e.g., whether the tonus of blood-vessels was intrinsic or under the control of the central nervous system. Again, regarding the cardiac afferents, did the depressor nerve give rise to sensation? Areas of pain had been marked in the head and chest in connexion with heart mischief. What were the afferents concerned? Here, again, we knew very little. The cervical sympathetic contained sensory fibres. But these visceral afferents were few. Other deep afferents had to be considered—e.g., those of the limbs. Head had shown some sensation to persist in the limbs after division of the ordinary sensory nerves. Such sensation required some degree of pressure for its elicitation, and was attributed to muscular afferents. Such afferents were known to be numerous and were distributed in muscle, tendon, and musculo-tendinous junctions. To which of these this pressure sensation was due was unknown. As regards tonus, the extensors were the muscles in which this was well marked, and they possessed deep afferents concerned in its control. Experiments had shown that the old idea of all muscles being in a state of tonus was untenable. It was not known how far the flexors showed tonus, and there was no evidence of tonus in muscles which do not oppose some constant action, such as gravity. Again, the nervous mechanism controlling ataxia was practically unknown. An explanation of the phenomena of tabes would probably be found in the functional arrangements of deep afferents. The whole system of the deep afferents offered an excellent field for the united efforts of anatomist, physiologist, and clinician.

Professor A. F. DIXON (Dublin) said that in his opinion it was much less easy to differentiate the somatic and splanchnic types of afferent nerves than was formerly taught.

Professor J. S. MACDONALD (Sheffield) expressed the view that the excitability of spinal cord segments might be increased by frequently repeated stimuli, and so contribute to the production of referred pain. As bearing on the functions of afferents, it had been experimentally shown that stimulation of the peripheral end of a divided posterior root could cause vaso-dilation, thus showing that afferents might conduct impulses in opposite directions. He regretted that the President had not made much more reference to his own work on deep afferents in muscle. He regarded the deep muscular afferents as of three kinds according as they responded to (1) mild and (2) powerful mechanical stimuli, and (3) electrical stimuli. The neuro-muscular spindle was particularly responsive to the last.

Dr. J. HADDON (Hawick) said that more facts and less theorising were needed. He believed that the explanation of many of the phenomena referred to by previous speakers was to be sought in the circumstances under which urea was formed in and eliminated from the body.

Dr. D. GRAHAM BROWN referred to a number of experimental observations made on the tonic and clonic actions of muscles. He illustrated some tracings of muscular action which seemed to indicate that there could occur a rhythmic inhibition of existing tonus.

Dr. N. C. RUTHERFORD (Edinburgh) described some of the phenomena of the development of nerves observed by Harrison in experimental section and implantation practised by him on embryo frogs.

The PRESIDENT, in reply, spoke of the importance of the electrical excitability of the neuro-muscular spindle. This was of especial interest in relation to electrical organs which have been shown to own a muscular origin in the skin. So, too, the possibility of one nerve fibre conveying stimuli in opposite directions was most important. He himself believed this to occur in the case of the third, fourth, and sixth cranial nerves.

Dr. WATERSTON exhibited a

Reconstruction Model of the Pelvis

of a male embryo at the tenth week. It showed that this pelvis was not an "infantile" type of pelvis in miniature, but was remarkable for the length and width of its sacrum and the length of the coccyx. At a later stage the innominate bones grow more rapidly than the sacrum. Certain features of the pelvic viscera at this stage were also referred to.

Dr. WATERSTON also demonstrated Lissauer's and Martin's apparatuses respectively for the accurate making and recording of skull measurements.

Dr. LEONARD HILL (London) communicated a paper, which was read in his absence, on the

Effects of Inhalation of Oxygen on Muscular Exertion.

Dr. Hill stated that breathing oxygen, as compared with air, yielded a greater amount of oxygen present in solution in the body. This allowed of a longer interval without the necessity of resuming respiration, and so was of benefit to sprinters, affording them a mechanical advantage. Dr. Hill had found that after breathing oxygen an interval of five minutes might elapse without discomfort before resuming respiration. The comparative results of three trial runs after breathing air and oxygen respectively were given. These showed that oxygen breathing was followed by a slighter rise in the pulse-rate, a shorter time running the same distance, less rise in blood-pressure, less general disturbance, and more rapid recovery.

FRIDAY, JULY 30TH.

Dr. J. STRICKLAND GOODALL (London) and Mr. H. G. EARLE dealt with the

Structure of the Pancreas in Relation to Function,

microscopic and lantern slides being shown in illustration.

Dr. GOODALL gave a demonstration of the histological structure of the pancreas of elasmobranchs (Mustellus vulgaris, &c.) and also of the pancreas in other vertebrates for purposes of comparison. He said that the pancreas contained three main classes of cells—namely: (1) ordinary zymogenous cells which formed the pancreatic juice; (2) islet cells; and (3) duct cells. The elasmobranch pancreas was very similar in structure to those of other vertebrates, but it contained structures (certain islet cells) which were either non-existent or merely embryonic in the latter. He was satisfied that the microscopic appearances indicated a direct structural continuity between the above three kinds of tissue. A study of serial sections negatived the idea that the apparent structural continuity was due to mechanical conditions—e.g., the plane in which the sections had been cut.

Dr. EARLE spoke of the physiological significance of the structure of the pancreas. He pointed out that the islet cells were of two kinds, associated with the ducts and acini respectively, and indicated their respective characters. The appearances met with indicated, not only a direct continuity of structure between different kinds of pancreas cells, but also that the zymogenous cells are formed from the acinous type of islet cells.

In answer to Professor T. H. MILROY (Belfast), Dr. GOODALL said that the vascular arrangements of the islets in elasmobranchs were identical with those in other vertebrates.

Professor B. MOORE (Liverpool) read a paper on the

Bio-Chemistry of Hæmolysis.

He said that there were three groups of hæmolytics—namely, (1) soaps; (2) bile salts and their derivatives; and (3) glucosides, of which the digitalis group was an example. All of these substances laked the blood corpuscles, increased the solubility of lipoids, slowed the heart, and arrested it in systole. All of them are colloids and soapy solutions. All of these bodies could unite with other substances, such as the oleate, cholate, and cholalate of sodium, and others, forming conjugated substances of great importance in hæmolysis. When these hæmolytics laked corpuscles they combined with the corpuscles' lecithin. But if there should happen to be present some substances such as fatty acids, for which hæmolytics had a strong affinity, then the hæmolytics would combine with these in preference (as it were) to the lecithin, and so the corpuscles would be shielded from their destructive action. Again, some hæmolytics had strong mutual affinities, while others were mutually repulsive. Should the former be simultaneously present in blood, their mutual attractions would protect the corpuscles from their action; but if the latter were present the corpuscles would be exposed to their individual attacks. Graphic curves (from experiments) were shown on the screen to illustrate the way in which the corpuscles were shielded from hæmolytic action. Sheep's corpuscles, pig's serum (hæmolytic), and sodium oleate (the protector) were employed. Professor Moore suggested the importance of studying the surface tension of hæmolytics.

Dr. HUGH MACLEAN (Liverpool) and Professor MILROY referred to the action of lecithin on snake venom, and remarked upon the great difficulty in explaining the phenomena observed.

Professor PETER THOMPSON (London) gave a demonstration of

Models of the Human Embryonic Heart

during the first month. These models were made from three embryos, 3 millimetres, 2·5 millimetres, and 7 millimetres (28 days) long respectively. The first thoroughly confirmed the correctness of the drawing made by His many years ago from an embryo 2·15 millimetres in length. Lantern slides illustrating the embryos showed in them a general twist to the right side such as was well known in the reptilia. The models of the heart showed that at a very early stage the ventricular portion was greatly bent to the right, the definitive apex being carried furthest in that direction. The explanation of this phenomenon was not known. Professor Thompson suggested that it might be due to a process of packing, called for by the rapid growth of the heart within the limited pericardial cavity. At a later stage the apex moves to the left, the permanent position, as was well shown by Ingall's embryo. A study of the models showed also that the right end of the sinus venosus disappeared into the right auricle by a process of intussusception, the consequent internal projection forming ultimately the venous valves. The site of this intussusception was marked on the heart by the sinus terminalis. The coronary sinus was developed from the transverse part of the sinus venosus.

Dr. RUTHERFORD said that the general twisting of the embryo body was not always to the right side. Sometimes it occurred to the left side. In these cases the direction of the heart's twist had not been recorded. In fish the ventricle developed to the right side.

Professor DIXON agreed that Professor Thompson's models confirmed the old drawing made by His, the correctness of which had been strongly questioned.

Dr. H. M. JOHNSTON (Dublin) read notes on the

Distribution of Intercostal Nerves

based on dissections made by himself. He had found (1) branches of intercostal nerves to the subserous layer of the pleura; (2) branches of the phrenic nerve to the mediastinal pleura; (3) connexions between the phrenic and the sympathetic plexus around the subclavian artery; (4) communications between intercostal nerves near their origins; (5) fine filaments from intercostal nerves to internal intercostal muscles; (6) twigs from white rami communicantes running along intercostal arteries into the abdominal wall; (7) twigs from the eleventh intercostal nerve to the muscular tissue of the diaphragm; (8) a branch from the fourth left intercostal nerve to subcostal muscles and diaphragm (one example only). The subpleural tissue opposite the ribs contained a fine nerve plexus, which was traceable back to intercostal nerves. Microscopic examination of the filaments described showed them to be nerves.

Dr. J. S. DICKEY (Belfast) described a number of dissections made by himself in 13 subjects to show the muscular and fascial supports of the cervical pleura, and to establish the relations between different structures in the neck. A number of beautiful drawings were submitted in illustration of his remarks.

Dr. RUTHERFORD demonstrated and described in detail a model (enlarged) showing the sense organs and other cephalic structures of the embryo trout.

Professor R. J. ANDERSON (Galway), owing to limited time, gave merely extracts from his paper upon Some Characters that make for Persistence. As affording illustrations of his views, he referred to certain corals and their habits; the digitations of the vertebrate anterior extremity, the lower limb, the lower jaw. He maintained that animals should be regarded as biological units, possessed of inherent powers of resistance to unfavourable influences, and capable of exercising these powers subconsciously; that animals were not merely the result of environment and circumstance.

DISEASES OF CHILDREN.

THURSDAY, JULY 29TH.

President, Mr. HAROLD J. STILES (Edinburgh).

Dr. J. A. COUTTS (London) opened a discussion on the

Functional Neuroses of Children.

He commenced by pointing out the insurmountable difficulties which the subject chosen presented. In illustration of this he said that a mere enumeration of the complaints included under its title would occupy more than the whole time which was allowed for the delivery of his address, and he felt that he could but fulfil the wishes of the committee of the section by briefly touching upon the more salient or debatable points of some of the most common neuroses. Taking the term "functional" in its ordinarily accepted sense, there were several functional neuroses that start in earliest infancy. The first he instanced were cases of faulty deglutition, where an infant rolled and gargled each mouthful of milk at the back of the pharynx for some time before finally swallowing it. Cases of the sort starting at birth usually improved on thickening of the food at the appropriate age. In other cases the difficulty only commenced with the change from a purely liquid food to one of a thicker consistency. Much rarer than cases of faulty deglutition were those of defective

respiration. In these last the respiration-rate of infants at birth and for some time after was abnormally rapid and increased with every change of posture into a hurried, shallow panting of over 100 to the minute. Both classes of case were ascribed to defective training of the nerve centres concerned with deglutition and respiration respectively. The pathology of pyloric stenosis Dr. Coutts considered was still unsettled, but as most authorities considered it arose solely from spasm he felt justified in including it as a functional neurosis. He gave statistics from Thomson and Still, the two authorities with the greatest experience of the complaint, and pointed out the great disparity between them as regards the percentage of cases submitted to operation and the percentage of recoveries, both with and without operation. He gave quotations from Hutchison to the effect that operation should never be performed in such cases under any circumstances. Reasons were given for his own belief that the complaint was much rarer than was sometimes asserted. Turning to the neuroses of later childhood, Dr. Coutts considered that cyclic vomiting was merely a phase of migraine. The main symptoms, vomiting and headache, with or without some degree of pyrexia, were the same in both, the only difference being that vomiting in the one complaint and headache in the other assumed the greater prominence. The family histories and sequelæ were confirmatory of the identity of the two complaints. Typical migraine as seen in adults was not common in children before the age of puberty. In young children it usually took the form of recurrent attacks of pyrexia and drowsiness, along with some headache and vomiting, and was lightly regarded by mothers as being merely due to "biliousness." In the rare occurrence of migraine in infants the symptoms, vomiting followed by profound stupor and irregular pulse, not unnaturally raised a dread of meningitis, which was only removed by the frequent recurrence of similar attacks. When commencing in infancy migraine in later years was usually of a severe and intractable type. Attacks of profound stupor, like those occurring in migraine but of longer duration, sometimes ushered in complaints like pneumonia in infants and young children. Dealing with incontinence of urine, Dr. Coutts commented on the frequently unsatisfactory nature of its treatment. He called attention to recent papers by Dr. Leonard Williams, where reasons were given for ascribing the disorder to thyroid insufficiency, and where remarkable success was claimed for its treatment with thyroid extract. Incontinence of fæces he did not regard as a functional neurosis, for, except in cases of mental defect or well-defined diseases, in his experience it was almost invariably due to carelessness on the part of the child. Lienteric or nervous diarrhœa he had found almost as frequent in adults as in children, and arsenic, which textbooks claimed as almost a specific in its treatment, had often failed at his hands. Nerve sedatives, such as bromide, with temporary limitation of the carbohydrates in the diet, had proved more efficacious than arsenic. Out of the very numerous family of tics, Dr. Coutts only proposed to touch briefly upon one, simple tic or habit spasm. Until comparatively recent years this had been regarded as a phase of chorea. In a recent work Hutchison states that there is no doubt the two complaints tend to pass into one another. Such a contingency was not within Dr. Coutts's experience, nor had he found the frequent association of habit spasm with rheumatism that some writers asserted. It was not very uncommon to find pigmentation of the skin in children with habit spasm where arsenic had been administered for a long time under a mistaken diagnosis of chorea. A correct diagnosis was essential if the habit was not to become inveterate and persistent in adult life. It was now well established that the complaint frequently arose from some local exciting cause, and the first step in treatment should be a reliable examination of such parts as the eyes, ears, throat, and teeth. Just as chorea was never for any length of time limited to the the face or an upper limb, so Dr. Coutts considered it was never strictly unilateral. Most cases of so-called unilateral chorea were, in his opinion, instances of hysterical tremor. Some dozen years back Dr. Coutts had endeavoured to draw a distinction between two classes of case where fright was associated with disturbance of sleep. For these two classes he had proposed the names of nightmare and night terrors, a cardinal point of distinction between them being that in the one the child should merely "dream dreams," and in the other it was essential he should "see visions." Other points of distinction between them were detailed and the force of the adverse criticism of Guthrie and others upon them admitted. He suggested that the term "somniliquism" should be restricted to cases akin to those of night terrors. In conclusion, Dr. Coutts referred once more to the great number and variety of the conditions included under the term functional neurosis, and said that in selecting examples for illustration he had endeavoured to give prominence to controversial points.

Dr. G. E. SHUTTLEWORTH (London) said that emotional excitability in children was very commonly associated with moral perversion and disregard of truth, neuroses passing into psychoses. Mental obsessions sometimes developed from impressions received through children's picture books, which led often to morbid fantasies. He cited some striking instances of phobias such as unreasoning fear of water and later of dogs in the same subject, overcome by patient training. For night terrors he found good results attend the administration of bromide of potassium at bedtime when causes of mental overstrain and indigestion were eliminated.

Mr. SYDNEY STEPHENSON (London), referring to habit spasms, said that rapid blinking in young children was frequently due to some error of refraction and disappeared at once when appropriate glasses were applied. The same explanation applied to other forms of habit spasm unconnected with the eyelids. Vision was often extraordinarily good, and the slight refractive error, generally hypermetropic astigmatism, could only be estimated under atropine.

Dr. GEORGE CARPENTER (London) cited an instance of transitory hemiplegia in a young girl, which illustrated the difficulty of distinguishing between organic and functional disease. Three attacks had occurred and passed off, being regarded and treated as functional, before commencing optic atrophy showed there was an organic basis underlying the complaint. Death occurred ultimately, and chronic syphilitic meningitis was found at the necropsy, though there was no indication of the disease in the family history. With regard to true pyloric stenosis, the speaker considered the condition rare, though dyspepsia with propulsive vomiting was common enough. Hypertrophic stenosis was not difficult to recognise by abdominal palpation. Of five cases in his clinique four were operated on and died, while one, considered too bad for operation, recovered completely under medical treatment with gastric lavage.

Dr. W. E. WYNTER (London), speaking on the treatment of chorea, alluded to the beneficial effects of chloretone to which he had adhered for the past three years, giving 5 grains three times a day for two or three days and half that amount for another two or three days when the movements had usually subsided. He had not yet completed 100 cases, but so far the movements had been subdued in nine days as an average of all cases, and convalescence established in three weeks. Old-standing cases of months' and even years' duration offered most resistance to the treatment, and next to them came paretic cases. In a few stupor, erythema and peeling of the hands and feet occurred, but these were small matters compared with the speedy recovery which generally ensued. Most of the cases of enuresis which came under his notice in a general hospital recovered control of the bladder within a week without drug treatment by the simple expedient of waking the patients at intervals during the night, commencing with every two hours at first and gradually lengthening the time by an hour each night until the patient could sleep for eight hours without accident.

Dr. J. W. SIMPSON (Edinburgh), speaking on the subject of pyloric stenosis, said the cases were of varying severity. He commenced by washing out the stomach, and if this failed to bring about improvement he recommended operation. In enuresis he relied on the effect of belladonna and potassium bromide.

Dr. R. W. LESLIE (Belfast) said that he had found chloretone of the utmost value in the treatment of chorea. In enuresis he used the fluid extract of rhus aromatica with good effect. No fluid was allowed after 6 P.M. and the patients were wakened during the night.

Dr. J. MCCAW (Belfast) advocated surgical interference in hypertrophic stricture of the pylorus. In one case which had ended fatally there was great hypertrophy of the mucous membrane, one fold forming a complete valve to the orifice.

He administered half an ounce of milk at a time, supplemented by enemata, and supported the abdomen with a flannel bandage. In enuresis he thought it advisable to limit carbohydrates and to wake the child in the night. Also he recommended getting the patient to empty the rectum as well as the bladder before going to sleep. Some of the really incurable states depended on mental instability. Chorea might have a varied etiology. Some cases responded at once to salicylates, whilst others did not. He cited one very severe case which was quite steady in five days on the salicylate treatment, and referred to a statement by Dr. Shuttleworth that chorea had become much commoner since the establishment of compulsory education.

The PRESIDENT said that true hypertrophic stenosis of the pylorus could only be remedied by operation, but such cases were rare, whereas instances of pyloric spasm were common, often resulting from change in diet or being associated with chronic trouble in the appendix. Folds in the mucous lining were secondary to contraction of the muscular coat. Operation was usually postponed too long. He spoke from an experience of about 20 cases.

Mr. JAMES H. NICOLL (Glasgow) read a paper entitled

"*The Surgery of Infancy.*"

He said that it was based on experience acquired in general hospital and private surgical practice, and especially on that of his clinique at the Glasgow Children's Hospital, in which during the past ten years some 9000 operations have been performed in the cases of children treated throughout as out-patients. Mr. Nicoll summarised his opinions under five headings—namely: (1) that a much larger proportion of the work of a children's hospital might with advantage be relegated to the out-patient operating room than was at present dealt with there; (2) that the cases so relegated should be largely those of infants and children under three years of age; (3) that sucklings should not be weaned prior to operation, but should remain with, and be nursed by, their mothers as out-patients or in accommodation provided in the hospital or neighbouring building; (4) that preliminary preparation of the skin of the part to be operated on was superfluous, because preparation carried out on the table after the patient has been anæsthetised was in all cases efficient; and (5) that, in view of the excellent results obtained in the out-patient treatment of cases of herniotomy and abdominal section in young children, the period of rest in bed customarily enforced in similar cases in adults was unnecessarily prolonged, and might with advantage be reduced to a week or less.

Mr. R. C. DUN read a paper entitled

"*The Association of a Patent Funicular Process with Certain Forms of Hydrocele.*"

He said that small hydroceles of the tunica vaginalis testis were very commonly met with in young children, and were readily cured by tapping, or tapping followed by injection. This simple form of treatment was, however, much less successful in those larger hydroceles which extended from the testicle to the external abdominal ring or into the inguinal canal, and the same held for encysted hydroceles of the cord. On this account he had recently advised operation in those cases. Examination of the hydrocele sacs after removal proved the majority to be loculated—a condition likely to prevent the free emptying by tapping and a sufficient cause for the failure of cure by injection. The main point of interest lay in the fact that above the hydrocele sac he had in the great majority of cases found a patent funicular process, although from the history and clinical examination of all the cases referred to in this paper there was nothing to lead one to suspect the presence of a hernia. Mr. Dun has now operated on 37 cases of hydrocele, in none of which was there any indication before operation of the presence of a hernia, and in 35 a patent funicular process was found above the hydrocele. The number of cases was not a large one, but the proportion in which a hernial sac was found was striking. He advised operation in such cases, because the treatment by tapping and injection has not been successful in his hands and because, while curing the hydrocele by excision of the sac, the surgeon could at the same time remove the patent funicular process which, in Mr. Dun's experience, was a common accompaniment.

Mr. DUN also read a paper on

Two Cases of Median Hare-lip.

The first patient, who was a girl aged one year and ten months, showed the following deformity. The upper lip was cleft in the middle line. The cleft was narrow and extended upwards to a point a quarter of an inch above the free margin of the alveolar process. At this level the mucous membrane covering the edges of the cleft was reflected on to the upper jaw forming a distinct frænum. A deep groove was continued upwards from the apex of the cleft through the upper portion of the lip, the nasal septum, and the tip of the nose to end on the dorsum. This extension of the sulcus beyond the point of the nose gave rise to a bifid appearance of the organ at its lower part. The anterior nares were small and widely separated, owing to the abnormal width—half an inch—of the nasal septum. The bridge of the nose was broad and flattened. The anterior borders of the nasal bones could be distinctly felt, separated from each other by an interval of half an inch at their lowest part. The eyes were wide apart, the distance between the inner canthi being one and a half inches. The incisor teeth were perfectly developed and regularly placed. There was no indication of any alveolar cleft. The palate was completely developed but highly arched. The second patient, who was a female infant, seven weeks old, showed a condition of the lip similar to that in the preceding case, the cleft in the lip being slightly less extensive and the sulcus above it less well marked. In addition to the deformity of the lip this infant had an alveolar cleft mesially placed and associated with a complete cleft palate. In neither of these cases was there a family history of congenital deformities and the children were in other respects normally developed.

Mr. S. MAYNARD SMITH (London) read a paper on

Exomphalos,

with a report of a case treated by radical operation eight hours after birth. He said that the patient was a female infant who was admitted to hospital with a hernia of the size of a large orange projecting from the region of the navel. The sac was composed of a semi-translucent layer sufficiently thick to prevent the contents from being seen. The projection was sessile, and there was no sort of neck to the sac. The child was small and thin, but no other deformity was present. Immediate operation was performed, the sac being excised and the abdominal wall being closed by two tiers of stitches. A considerable part of the liver, the gall-bladder, and several coils of small intestines formed the contents of the sac. The liver was adherent to the back of the sac wall, and difficulty was experienced in effecting a separation, the anterior surface of the liver being left raw and oozing. An uninterrupted recovery ensued and the child left the hospital in a satisfactory condition. At a later date acute intestinal obstruction developed and the child died when six weeks old. At the necropsy the liver was found to have a median tongue-shaped process projecting, united to the main part of the isthmus by a narrow band. The obstruction was due to the binding down of coils of small intestine between the liver and the abdominal wall.

FRIDAY, JULY 30TH.

Mr. D'ARCY POWER (London) read a paper on the

Value of New Tuberculin (T.R.) in Surgical Tuberculosis.

He said that since tuberculosis was very common, chronic, and prone to relapse, cases occupied the hospital beds in undue proportion for long periods and with very unsatisfactory results, so that any fresh and comprehensive treatment was to be welcomed. The old tuberculin introduced by Koch in 1890 was too severe and dangerous in its effects, and had come to be employed only in minute doses as a test of the presence of tubercle. The new tuberculin owed its activity to the intra-cellular toxins contained in the bacilli themselves and was standardised to represent 10 milligrammes of dried bacilli in 1 cubic centimetre of salt solution or horse serum. This preparation was further diluted so that the usual amount administered was 1-100,000th of a milligramme dissolved in 10 cubic centimetres of normal saline solution, given by the mouth every other morning for a fortnight, and resumed if necessary after an interval of another 14 days, provided the temperature fell and remained uniform at or below normal, but if the temperature rose or became irregular the dose was doubled. In general it may be said that the temperature rose when too much was given, continued unaltered when too little, and remained steady rather below the normal when the proper dose was given. A fresh dose was indicated when the temperature again began to rise above normal and

when it oscillated. This mode of treatment was useful in tuberculous glands, either in the early stage to promote resolution or after operation to prevent development in other slightly affected ones which had been left. It also accelerated the closure of sinuses as nothing else did and cleared up dermatitis, but was of no service in the grosser tuberculous lesions, such as caries of bone and peritonitis.

Mr. G. H. EDINGTON (Glasgow) showed a specimen of

Myxosarcoma of the Prostate,

which had occurred in a child aged one year and nine months. The case came under observation in the late stages of the disease, and, although the tumour was of large size, attention had been directed to the genito-urinary organs only a few weeks before he saw the patient. The child had been out of sorts for more than a year and had sustained a green-stick fracture of the forearm four weeks before admission to hospital. At the time of the accident the penis and foreskin were "inflamed" and there was pain on micturition. About ten days later there were dribbling of urine and swelling of the left leg. A few days later a medical practitioner passed a catheter and drew off a large quantity of urine. On admission to hospital the child seemed ill and was feverish. There was retention of urine and the pelvis was occupied by a large mass, apparently in the prostatic region. The catheter drew off decomposing urine. The patient died when put under chloroform for the purpose of examination, and the genito-urinary organs were obtained post-mortem. There was slight hydronephrosis with dilated ureters. The prostate was much enlarged, and there were polypoid outgrowths in the interior of the bladder. One of these acted as a ball-valve at the urethral orifice and caused retention. The right ureter was completely obstructed by tumour growth. The tumour was found by Dr. Leonard Findlay to be a myxosarcoma. The early age of the patient, the short duration of symptoms, and the large size of the tumour were all in agreement with what has been published regarding this condition.

Mr. ALEXANDER MACLENNAN (Glasgow) read a paper on

Madelung's Subluxation of the Wrists.

He said that the patient, who was a girl, aged 13 years, presented the typical malformation first properly described by Madelung. Photographs and skiagrams were shown. The deformity consisted in a forward displacement of the hands with a degree of adduction and with prominence of the ulna on the dorsum. The malformation was only noticed three months before the girl was brought for advice. It had originated spontaneously. Trauma, rickets, and a hereditary predisposition were all absent. The deformity did not cause much inconvenience, active and passive movements being about normal. The forearms were both relatively short, indicating some interference with growth. The X ray plate showed evidence of obliteration of the inner third of the lower radial epiphyseal line. The radius was curved in an outward direction only and was not curved backwards. The etiology of the condition was discussed and the view was accepted that the disease was primarily due to defect at the lower radial metaphysis, and that the distortion of the wrist and the curvature of the radius were secondary. A case in support of this view, but affecting the ankle-joint, was reported. The fibula had grown at a preponderating rate compared with the tibia, and it tended to invert the foot. The condition had been congenital. The treatment advocated for the Madelung deformity was cuneiform osteotomy, the epiphysis to be included in the wedge removed. The ulnar epiphysis should be destroyed at the same time. Cases which were curable by a simple osteotomy did not require operation at all. Other treatment was useless.

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TROPICAL MEDICINE.

THURSDAY, JULY 29TH.

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He said that when a patient with evidence of a chronic intestinal ailment had to be dealt with the following mode of procedure should be adopted. 1. Examination of the abdomen by palpation. In the majority of cases the result of the examination would indicate pain in the left iliac region, especially at the outer edge of the left rectus muscle at a level with a line drawn horizontally inwards from the left anterior superior spine of the ilium. The sigmoid flexure itself could, as a rule, be felt either as a cedar-pencil-sized rod or as a thickened mass about the size of the thumb. 2. Examination of the rectum by the finger. As a rule, provided there is no anal trouble, the lesion associated with chronic dysenteric or chronic colitis will be found to be beyond the reach of the finger. 3. Examination by the sigmoidoscope is essential before a correct diagnosis can be made. The lesion will be found about 13 centimetres up the rectum from the anus. The tube of the instrument when it reaches this portion of the bowel will cause pain, sometimes rather acute, and it is seldom or never possible when pronounced trouble exists to pass the instrument beyond a distance of 5 to 6 inches from the anus. When the seat of the trouble is inspected through the sigmoidoscope tube there may be seen congestion, a velvety granulation, or follicular points of suppuration, or ulcers or cicatrices, and evidences of a marked stenosis of the bowel. 4. The stools must be inspected as to their consistency and the presence of blood, mucus, or ova determined. A healthy stool is difficult to define, but shortly it may be said that in addition to normal shape, colour, and consistence the whole of the fæces ought to sink in water. A stool which floats in water either in whole or in part is normal or abnormal in direct proportion to the amount of it which sinks or floats in the water of the pan into which it is passed. Mucus in the stool may be in streaks, in gelatinous masses, or may

exist as mucous casts of the intestine. The cause of the mucus may be due to (1) pressure upon the gut from *without*—from tumours, inflammatory thickening, displaced or pregnant uterus, enlarged spleen, aneurysm of the left iliac arteries, ovarian tumours, or peri-ovarian lesions; (2) the cause of the mucus may arise *within* the gut from intestinal parasites either as worms or as ova, or from simple retention of fæces; and (3) the cause may be *in the gut wall* itself—kinks of the bowel, follicular inflammation, ulcers, cicatrices, or stenosis with or without prolapse. The last-named, according to Mr. Cantlie, is the commonest cause of chronic bowel trouble subsequent to both colitis and dysentery. Mr. Cantlie then reviewed the anatomy and physiology of the sigmoid flexure, preferring to retain that name for the narrow portion of the intestine between the wide descending colon and the wide rectum. 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As in stricture of the urethra there is set up a condition of the urethra which causes a urethral catarrh, the discharge from which overflows the barrier occasioned by the stricture and appears at the urethral meatus, whilst, on the other hand, the catarrhal process extends backwards through the prostate to the bladder and even to the ureters; so in the bowel stenosis of the sigmo-rectal pylorus causes a catarrh which, owing to the enormity of the mucous surface, appears before, with, or after the passage of fæces as a large mass of mucus, gelatinoid at times, or as partial or complete casts of the colon above the seat of stenosis. The anatomical conditions detailed above point to the mode of treatment. Drugs have little effect upon the condition. Diet should aim at the administration of food causing but a minimum of excretion. All farinaceous foods should be excluded from the diet and milk completely withheld. Pounded meat, eggs, jellies, &c., should constitute the means of sustenance when an attempt is made to control local congestion in the sigmoid. Lacto-bacilline, either in powder with sugar and water or as soured milk, was not beneficial in sprue, and did but little direct good in dysenteric lesions; in the played-out digestion of old tropical residents it was excellent. Enemata are useful and warm sea-water is the best of all. All these measures are palliative merely if there is an organic stenosis, when dilatation by bougies is requisite, the obvious parallel being that, as in stricture of urethra, the condition must be dealt with by means of bougies before the catarrhal condition of the urethra and bladder can be cured, so in the case of stenosis of the bowel the stricture must be dilated before the mucus in the stools can be combated. The chief difficulty is the passage of the rectal bougie through the stenosed sigmo-rectal pylorus. The passage of a long tube up the bowel into the sigmoid and colon is difficult enough in a normal bowel, but when there is stenosis, either congestive or organic, this procedure is difficult in the extreme. It is only when the sigmoidoscope is introduced and the part illuminated that we can be sure that the tube actually enters and passes the obstruction. Mr. Cantlie then reviewed the major operations practised on the colon for dysenteric lesions. When the whole bowel is affected the cæcum and sigmoid flexure will be found to be the points chiefly affected. 1. When the whole gut is involved appendicostomy offers a ready and efficient means of applying lavage. Opening the appendix, however, does not allow of rest to the colon which is so essential an element in success when the surface of the bowel is ulcerated or inflamed. 2. Opening the cæcum provides a channel of escape for the fæces and also provides a means whereby the colon may be washed out. The frequency of the escape of liquid stools, however, is harassing to the patient and surgeon. 3. Opening the ascending colon in the right lumbar region is more satisfactory than cæcostomy. 4. When the disease is quite chronic, and should dysenteric attacks recur again and again, opening the sigmoid flexure will be found to be theoretically and practically an efficient means of treatment, for the disease in 90 per cent. of such cases is at the junction of the sigmoid flexure and rectum, and an opening at the upper end of the sigmoid will be found to be well above the lesion. Through the opening in the sigmoid bougies may be passed downwards through the stenosed portion, thereby curing the cause of the lesion. Mr. Cantlie described an ingenious method whereby such bougies may be introduced. 5. Excision of the stenosed portion is difficult owing to its situation in the hollow of the sacrum, but it is possible and may be accomplished when necessary. 6. 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when it oscillated. This mode of treatment was useful in tuberculous glands, either in the early stage to promote resolution or after operation to prevent development in other slightly affected ones which had been left. It also accelerated the closure of sinuses as nothing else did and cleared up dermatitis, but was of no service in the grosser tuberculous lesions, such as caries of bone and peritonitis.

Mr. G. H. EDINGTON (Glasgow) showed a specimen of

Myxosarcoma of the Prostate,

which had occurred in a child aged one year and nine months. The case came under observation in the late stages of the disease, and, although the tumour was of large size, attention had been directed to the genito-urinary organs only a few weeks before he saw the patient. The child had been out of sorts for more than a year and had sustained a green-stick fracture of the forearm four weeks before admission to hospital. At the time of the accident the penis and foreskin were "inflamed" and there was pain on micturition. About ten days later there were dribbling of urine and swelling of the left leg. A few days later a medical practitioner passed a catheter and drew off a large quantity of urine. On admission to hospital the child seemed ill and was feverish. There was retention of urine and the pelvis was occupied by a large mass, apparently in the prostatic region. The catheter drew off decomposing urine. The patient died when put under chloroform for the purpose of examination, and the genito-urinary organs were obtained post-mortem. There was slight hydronephrosis with dilated ureters. The prostate was much enlarged, and there were polypoid outgrowths in the interior of the bladder. One of these acted as a ball-valve at the urethral orifice and caused retention. The right ureter was completely obstructed by tumour growth. The tumour was found by Dr. Leonard Findlay to be a myxosarcoma. The early age of the patient, the short duration of symptoms, and the large size of the tumour were all in agreement with what has been published regarding this condition.

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There are three types of the disease: (1) an acute form in which if no operation is performed the patient may die of septicæmia in a few days; (2) a mild type of the disease which recovers spontaneously; and (3) a chronic type referred to by Coutts is occasionally seen. Castellani's and Coutts's investigations show that in endemic funiculitis the spermatic cord is inflamed and much swollen. On cutting into the part pus may be seen in the vas deferens and in the veins of the pampiniform plexus. The testicle is normal; some clear fluid may be present in the tunica vaginalis. In fatal cases the lesions found after death are those usually met with in septicæmia. The origin of the disease is not settled. It is not due to local sores on the penis or scrotum, nor is gonorrhœa a factor in the etiology. Castellani found in 98 per cent. of his cases a diplostreptococcus in the pus from the veins of the pampiniform plexus; in two necropsies he found the same germ in the blood of the heart. During life the same organism has also been found in the blood. Of the various strains of the organism Castellani finds they all agree in that they are decolorised by Gram's method in sections of the tissues and in smears from the pus, whilst preparations from cultures decolorise incompletely and some cultures may be even Gram-positive. This peculiarity is also observed in other germs, but it may serve to distinguish the organism in question from streptococcus pyogenes, which it so closely resembles. Coutts states that this organism occurs in the urethra of natives, and he regards the suppuration in the cord as due to an extension of an infective process extending from the urethra to the cord by way of the vas deferens. Castellani confirms Coutts's observations and considers that the presence of this organism plays an important part in the etiology of endemic funiculitis, at least in the suppurative stage of the malady.

Mr. CANTLIE stated that he had recently treated a native of Ceylon in London for funiculitis. The attack was ushered in by pain in the spermatic cord and a smart febrile attack which lasted for three weeks. After an interval of six weeks the condition returned in a milder form and continued for two weeks. There was no suppuration, but the cord remained thickened at the time the patient left for Ceylon.

FRIDAY, JULY 30TH.

Dr. CARNEGIE BROWN (London) introduced a discussion on

The Feeding and Treatment of Children in the Tropics.

He first drew attention to the death-rate amongst native children in tropical countries. He found that in the tropics, as in Britain, the mortality amongst children varied directly with the care bestowed upon the children in the matter of feeding and sanitation generally. European children in the tropics did well, as a rule, during the first years of life. He pointed out the difficulty of obtaining reliable statistics; however, judging from what information they had, the returns of mortality for children in the tropics and in Edinburgh showed but little difference. The chief cause of infant mortality in the tropics is gastro-intestinal disorders, the direct result of the want of fresh and nutritious milk. When breast milk fails the substitution of cow's milk is the problem, and to keep a dairy-farm going in the British sense of the word is most difficult. Neither goat's milk nor buffalo milk are good substitutes for cow's milk, and one looks to condensed and preserved milks to fill the gap. Condensed milk lacks much of the nutritive power of fresh milk, but in tropical countries condensed milk has the advantages of being clean, easily prepared for use, portable, and fairly nutritious. Condensed milk has been introduced lately into many tropical countries and with apparent benefit. The infant in the tropics escapes some of the more common ailments which afflict children in more temperate regions. Scarlet fever, diphtheria, and acute articular rheumatism are examples of these, and whooping-cough and mumps, although they occur, cause but little trouble. Other ailments, however, occur in tropical countries which cause a severe mortality amongst infants. (*a*) Tetanus neonatorum due to infection of the cut surface of the umbilical cord by the specific bacillus of tetanus is extremely common. Were native midwives educated in the simplest rules of hygiene a great saving of life would result. (*b*) Gastro-intestinal disorders hold the foremost place as a cause of infant mortality. Gastro-enteritis in the suckling usually manifests itself as "inanition fever"; the symptoms are high temperature, pain, crying, watery or green stools, and great thirst. A wet nurse in such cases would be invaluable, but the danger of syphilis being communicated is so dreaded, and not without reason, that one is content to feed the infant for two days on warm albumin water. A few drops of castor oil, followed by minute doses of calomel, are beneficial, and after 48 hours peptonised condensed milk may generally be given. When gastro-enteritis occurs after weaning it is generally due to indigestion caused by improper feeding. (*c*) Intestinal helminthiasis is almost universal in the tropics. The routine use of santonin, a dose once every month, is to be commended. Dysentery is prevalent and fatal and may be amœbic or bacillary. The treatment is rest and limiting the food to barley water, egg albumin, and small quantities of prepared infants' food. Warm water lavage to the bowel is useful, but drugs are unsatisfactory. (*d*) Non-malarial continued fevers are best treated by aperients and intestinal antiseptics, with fruit juice, cold sponging, and change to a hill station if possible. (*e*) Malaria affects children in some districts almost universally; the prophylactic measures necessary should be carried out as part of an organised scheme; individual efforts are well-nigh useless. Dr. Carnegie Brown holds that the cost of prophylactic measures against malaria has been greatly exaggerated. (*f*) Fatal enlargements of the liver and spleen are common amongst children in the Eastern tropics; some of these cases may be traced to malaria or kala-azar, but in most instances the origin seems to be non-parasitic. (*g*) Infantile biliary cirrhosis is generally congenital; although extremely fatal, treatment is by no means hopeless, and the timely addition of fat to the food is sometimes effectual. (*h*) Yaws. The children of most native communities throughout the world suffer from yaws and the disease is not infrequently transmitted to European children. Dr. Carnegie Brown is inclined to doubt the possibility of raising a healthy European population in the tropics.

Lieutenant-Colonel A. DEANE, I.M.S., said that native mothers were capable of suckling their children to a greater extent than European mothers. Well-regulated dairy farms were multiplying in India. Condensed milk he did not advocate as a substitute for fresh milk, but some infants' foods were very serviceable. He found that hypodermic injections of small doses of morphia were very useful in the treatment of gastro-intestinal ailments in children.

Dr. MAXWELL stated that the published statistics of the comparative mortality of children in tropical countries and in Europe were faulty for many reasons. Native women often suckled their children for two or more years, and there could be no doubt that the milk deteriorated in its nutrient value as lactation was extended beyond 12 months. Buffalo milk was unsuitable for children owing to the large proportion of fat it contained. Instead of condensed milk Dr. Maxwell advocated the use of sterilised or non-condensed milk. He could cite instances in which the introduction of condensed milk coincided with an increase in infant mortality. In the treatment of gastro-enteritis he had found salicylate of bismuth useful. He protested against the routine use of santonin. Children carefully guarded from mosquito bites could be reared in perfect health and without any trace of anæmia.

Surgeon-General W. R. BROWNE, I.M.S. (retired), said that he found native wet nurses a great boon for European children when their mothers could not suckle them. Were buffaloes properly fed, their milk could be made use of. In Southern India he had seldom seen cases of yaws. Although Europeans might be protected from malaria infection by mosquito-proof houses and beds, it was almost impossible to contemplate the same thing in the case of native children.

Major J. K. RITCHIE, R.A.M.C., stated that in comparing the mortality amongst children living in Europe and in the tropics it must be remembered that all classes of the community were included in the former instance, whereas in the tropics the children were the offspring of parents in good circumstances as a rule. He did not believe a European race could be reared through several generations in a tropical country independently of protection from malarial infection.

Mr. J. STUART BROOKE (India) said that milk was apt to be contaminated with foul water. Cows drinking polluted water was a source of danger. In Northern India measles was proving a more serious ailment than was formerly the case there. Mumps and whooping-cough prevailed there

also, and tuberculosis had become more widely distributed during recent years.

Professor J. B. HELLIER (Leeds) asked for information concerning the prevalence of rickets in the tropics, and desired information concerning the treatment most suitable for Anglo-Indian children affected by the climate when they returned to Britain.

Captain J. H. CAMPBELL, R.A.M.C., considered that buffalo milk was incapable of being rendered suitable for children by whatever care was bestowed upon the feeding of the animals. A very excellent breed of cows was being raised by cross British and Indian breeds of cattle.

Dr. O. E. MCCUTCHEON (Dooars, India) found that European children did very well in the Dooars up to five or six years of age, and with proper precautions it was possible to protect them from malaria. Native wet nurses were a great standby in rearing European children. Yaws he had not seen in the Dooars; but mumps, measles, whooping-cough, tuberculosis, and even rickets occurred in varying frequency.

Captain J. J. ROBB, I.M.S., said that if the cows were properly fed buffalo milk could be used with advantage. He had never seen yaws in Madras. In gastro-intestinal ailments salicylate of bismuth was most efficacious.

The PRESIDENT said that yaws was not so general a disease in the tropics as Dr. Carnegie Brown had stated. He advocated the formation of dairy farms under Government control as a great hygienic step, and one calculated to improve the health of children of every nationality. It would be well were Crown colony governments to make provision for the extension of dairy farms within their jurisdiction.

Dr. CARNEGIE BROWN, in replying to questions, said that rickets did occur to some extent amongst native children. Anglo-Indian children returning to Britain required no special treatment unless they were suffering from some definite malady.

Is Ponos Kala-azar?

Dr. GEORGE A. WILLIAMSON (Cyprus) contributed a paper on a disease met with in some of the islands of the Greek Archipelago. Hydra and Spezzia have been especially liable to an endemic ailment passing under the local name of Ponos until Dr. Williamson's suggestion that it is a form of Leishmaniasis. The disease runs a chronic course, is very fatal, and although endemic occurs also in epidemic waves. Dr. Williamson regards the disease as probably due to micro-organisms, as it is attended by fever, is endemic but becomes epidemic, cachexia follows the febrile state, and several cases occur in one household. An apparent difference between ponos and kala-azar is that ponos is stated to attack children for the most part whereas kala-azar chiefly attacks adults. This distinction, however, proves no identity of the diseases in question even if true. In Tunis Nicolle describes a disease in children similar to ponos in which the Leishman-Donovan body was found in the blood drawn from the spleen by puncture. The Leishman-Donovan bodies have been met with in several countries adjacent to the eastern end of the Mediterranean—Egypt, Tunis, Algiers, Arabia in cases of kala-azar, and in Oriental sore patients in Arabia, Tunis, Algiers, and Cyprus. Dr. Williamson had prepared a table of comparison of the signs and symptoms of ponos and kala-azar, and a perusal of the table must convince everyone of the close similarity, if not identity, of the two ailments. The frequent presence of cancrum oris in both diseases is a feature of especial interest. The crowning piece of evidence, however, is wanting—namely, finding the Leishman-Donovan body in splenic or hepatic puncture in cases of ponos; but up to the present, since Dr. Williamson first suggested the idea of identity, he has not met with any cases of ponos, although he went by special arrangement to Spezzia and Hydra to elucidate the point. No cases of ponos have occurred in these islands lately.

Surgeon-General BROWNE remarked upon the dangers of splenic puncture in kala-azar.

Captain CAMPBELL mentioned two cases of hæmorrhage after splenic puncture; the cause of the hæmorrhage seemed to be due to a tear in the splenic capsule caused by the needle *in situ* during a deep inspiration.

Dr. A. BREINL (Liverpool) referred to splenic punctures made in many cases of typhoid fever without mishap. He advocated the plan of the patient holding his breath whilst the operation of puncture and withdrawing blood was being done.

The PRESIDENT said that at the London School of Tropical Medicine they had given up splenic puncture and employed hepatic puncture instead in cases of kala-azar.

Mr. CANTLIE drew attention to the presence of cancrum oris in both ponos and kala-azar. The pathology of cancrum oris was as yet, he believed, unwritten. He had seen it in England and amongst Indian troops, and the question of a common origin arose.

Dr. MAXWELL said that he had met with cancrum oris in Formosa.

Mr. STUART BROOKE (India) had seen two cases in India.

Dr. C. A. STONE stated that he had seen six cases of the disease in Bengal.

Mr. A. T. OZZARD (British Guiana) read a paper on

The Life-History of Ankylostoma Duodenale.

He stated that at the present day there is no agreement as to the true life-history of the ankylostoma duodenale. Giles considers the parasite to be heterogenetic, an abundant supply of food favouring non-parasitic multiplication. His observations are supported by Ozzard, Annett, Ross, and Sandwith, but opposed by Looss, who considers that probably other free-living nematodes have been mistaken for the species in question. Daniels in his text-book states that the eggs if allowed to escape into the earth undergo further development, but do not become sexually mature or reproduce outside the body. Again, Giles contends that he has been able to hatch embryos on sand from ankylostome ova and that he obtained adults from those which were different from the ordinary intestinal forms from the human intestine. If it be subsequently proved that there is such a free stage existence for ankylostoma duodenale it is easy to understand how readily ankylostomiasis can spread. One infected stool falling on suitable soil would become capable of spreading over a wide area, and persons walking over this ground with bare feet can hardly fail to become infected through the skin of their feet. Mr. Ozzard considers that those observers who failed to cultivate the ova in the media chosen probably did so by sterilising their media to the extent that no food was left on which the parasites could live.

The PRESIDENT said that prophylactic measures suitable in cases where no heterogenesis occurred would be useless should heterogenesis be discounted. Many observers found that although the embryos they hatched out could be kept alive with abundant nutriment for months, no traces of sexual organs were seen. This important question required further experiment and elucidation.

Bronchial Spirochætosis.

Dr. ALDO CASTELLANI (Ceylon) communicated a paper on some cases of bronchitis occurring in Ceylon in which spirochætæ were found in the sputum. In 1904–05 he recorded two cases, and since then observers in India and the Philippines have described cases. Acute and chronic types of these cases of broncho-spirochætosis occur. In the acute type there is some febrile disturbance at first, but as a rule the onset is insidious and slow. The cough is mainly in the morning; expectoration is not abundant, it is muco-purulent in character, and is non-nummular. At times blood occurs in the expectoration. The acute type is at first generally mistaken for influenza or malaria, and it is only by finding the spirochætæ in the sputum that a positive diagnosis can be made. In more chronic cases tubercle suggests itself, but this is readily differentiated. Endemic hæmoptysis due to the presence of ova of paragonimus Westermanni (distoma Ringeri) presents some features in common with this ailment, but the microscopic findings at once clear up the diagnosis. A mixed infection—tubercle and spirochætosis—is described by Branch. Dr. Castellani distinguishes four types of spirochætæ after staining by Leishman's method: (1) thick spirochætæ from 15 to 30 microns in length, with irregular coils which vary in number; (2) spirochætæ resembling the S. refringens (Schaudinn), with a few graceful waves and pointed extremities; (3) slender spirochætæ with small uniform coils and tapering ends of which one end is blunt (this is the commonest type); and (4) very thin and delicate organisms with few irregularly shaped coils. The treatment of broncho-spirochætosis is unsatisfactory; the general condition may remain fairly good for a long time,

though a certain degree of anæmia is usually present, whilst some cases waste rapidly. Glycerophosphates and arsenic, according to Dr. Castellani, are of some benefit. That the spirochætæ are the real origin of the bronchial affection associated with the presence of these parasites in the sputum Dr. Castellani does not consider to be proved, but it is not improbable that the very large numbers of spirochætæ found in the sputum, practically at times unaccompanied by any other germ, play an important etiological rôle.

THE PATHOLOGICAL MUSEUM.

The museum, which was placed in the anatomical department of the Queen's University, contained many interesting exhibits, of which we have space to mention only a few. Diseases of the genito-urinary system were well represented, and especially good were 16 specimens of diseases of the kidney and bladder lent by Dr. Andrew Fullerton (Belfast); they included a prostate weighing 17 ounces successfully removed from a patient 73 years old. In the section of diseases of the female genital organs was a preparation of a pregnant uterus containing a fœtus *in situ*. Some good specimens of diseases of the heart were shown, and six water-colour paintings lent by Dr. A. B. Mitchell (Belfast) were especially worthy of notice. Diseases of the liver were well represented, and an enormously distended gall-bladder from the pathological museum of the Queen's University was shown Dr. W. Mair (Manchester) exhibited a good series of specimens illustrating various morbid conditions, and Professor Lorrain Smith's collection of specimens of kidney illustrating types of Bright's disease and allied lesions was very noticeable. Dr. Cecil E. Shaw (Belfast) showed 20 specimens of disease of the eyes mounted in glycerine jelly. A series of 40 specimens of goitre from the Royal Free Hospital also deserves mention. Dr. W. G. Harvey (Dublin) showed the achondroplasic skeleton of an adult and also the skeleton from a full-time achondroplasic fœtus, accompanied by the bones of a normal fœtus. Dr. D. R. Paterson (Cardiff) exhibited some excellent skiagrams of foreign bodies in the food and air passages. Dr. A. Logan Turner and Dr. W. G. Porter (Edinburgh) showed a large number of skiagrams illustrating various forms of disease of the sinuses of the frontal, ethmoidal, and maxillary bones. Other skiagrams of these sinuses were also exhibited by Mr. A. D. Reid and Dr. StClair Thomson (London) and also by Dr. P. Watson Williams (Bristol); these latter were stereoscopic and showed the sinuses very clearly. A group of photographs demonstrated the value of treatment by X rays of enlarged glands of the neck, and also of one case of lymphadenoma. The large number of pictures exhibited by Mr. G. P. Newbolt (Liverpool) should be mentioned. Dr. R. Stopford Taylor and Dr. R. W. MacKenna (Liverpool) showed a very large series of wax casts and of photographs and plates of diseases of the skin. Dr. R. H. Scanes Spicer (London) exhibited a very ingenious model by which the strains, stresses, and frictions in the throat and larynx produced by costal and by abdominal respiration respectively were graphically shown. There was a large microscopic exhibit, Mr. Ernest Leitz lending 100 microscopes, and he showed also a recently devised and very steady microtome. Lastly, we must not omit to mention a collection of animal parasites and specimens illustrating diseases common to man and the lower animals; this collection was brought together mainly by Dr. Henry O'Neill (Belfast), and it belongs to the hygienic museum of the University.

PRECAUTIONS AGAINST CHOLERA.—Mr. G. Millson, medical officer of health of Southwark, has issued a circular letter to the medical practitioners in his borough requesting them to notify any cases of diarrhœa on the ordinary forms and stating that the council will pay the usual fee for such returns. This course, which has been adopted as a precaution against the introduction of cholera, has led to an inquest being held on Sept. 2nd upon a man, aged 59 years, who recently died with choleraic symptoms. Mr. G. F. McCarthy, who had attended him, gave very clear evidence that he did not consider the case to have been one of Asiatic cholera but of summer diarrhœa, an opinion in which the medical officer of health, who assisted at the post-mortem examination, concurred. The jury were satisfied with the evidence and returned a verdict of "Death from natural causes."

THE SIXTEENTH INTERNATIONAL MEDICAL CONGRESS, BUDAPEST, AUGUST 29TH TO SEPT. 4TH.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

Termination of the Congress.—The Invitation from the British Government.—Creation of a Permanent International Bureau and a Constitution for the Congresses.

Budapest, Sept. 4th.

THE Sixteenth International Congress of Medicine has just terminated amid a general consensus of congratulations to the organisers. The unfortunate breakdown in health of Professor Calman Müller, the President of the Congress, was indeed a serious mishap, and one in which all alike sympathise with the sufferer and with his colleagues in the organisation, but this was the only serious hitch which occurred. In my previous letter I described the scene of wild confusion, caused by the insufficiency of cloakroom accommodation, at the conclusion of the soirée of welcome held at the Gallery of Fine Arts last Saturday (August 28th). Professor Calman Müller endeavoured to restore order on this, one of the hottest nights of the year. He was already overworked and over-worried, and a temporary breakdown followed. He was, however, soon back at the Congress; and although he was not able to assist at the opening ceremony on August 29th, while the reception which he was announced to give on the same evening had to be postponed, he was sufficiently recovered by last Thursday (Sept. 2nd) to substitute a dinner party for the reception. This change of plan produced important sequelæ, for it was on this day, and at the very hour chosen for the dinner, that the International Commission of the Congress was to have met. This meeting was postponed till the following day, thus taking the time when a second meeting of the Commission was to have been held. This was serious, for it was seen to be very doubtful whether the anticipated reforms could possibly be discussed and brought to an issue in a single short sitting.

The International Commission of the Congress.

The Commission when it sat consisted of the presidents and secretaries of the National Committees, the leaders of Governmental delegations, and the members of the executive subcommittee of the Sixteenth Congress. This Commission had to decide where and when the next Congress should meet, and fortunately these two questions were settled at once. The invitation from Great Britain was accepted enthusiastically, and probably but few members of the Commission realised that a very encouraging and new departure had been taken with regard to this invitation. Yet it is, I believe, the first time that the British Government had itself invited a scientific congress to meet in England. The International Commission decided that the lapse between the congresses should be four instead of three years, and then the following two despatches were prepared and approved:—

To His Very Gracious Majesty Edward the Seventh, King of Great Britain and Ireland.

The Sixteenth International Congress of Medicine, held at Budapest under the august patronage of His Imperial and Apostolic Royal Majesty, has unanimously decided at its final sitting to accept the very courteous invitation of the Government of Your Majesty to hold its next session in Great Britain during the year 1913. The Congress humbly begs Your Very Gracious Majesty to bestow upon it your august patronage, and presents to your Majesty its homage of profound respect and infinite gratitude.

CALMAN MÜLLER, President.
EMILE DE GROSZ, General Secretary.

The other despatch was addressed:—

To the Secretary of State for Foreign Affairs, Whitehall, London.

SIR,—The Sixteenth International Congress of Medicine, held at Budapest under the august patronage of His Imperial and Apostolic Royal Majesty, has unanimously decided at its final sitting to accept the very courteous invitation of the Government of His Very Gracious Majesty, and will hold its next session in Great Britain during the year 1913. The Congress begs you, Sir, to be so good as to accept this reply, and expresses in advance the warmest thanks for the hospitality it will receive in your country.

CALMAN MÜLLER, President.
EMILE DE GRÓSZ, General Secretary.

Having thus and rapidly cleared the ground by settling the question of date and place for the next Congress, the International Commission then dealt with the most difficult and controversial problem of creating a regular constitution

for the government of future congresses. It must be confessed that the Commission does not seem to have understood fully the importance of what it was doing, or it would not have so quickly carried its resolutions, and these would have been put in better order. Still, the great point is that a Permanent International Commission has been appointed, some sort of a constitution has been sketched out, and the work has begun. The following is the text that will now form the new constitution adopted by the International Commission and ratified by the entire Congress at the final sitting held this morning, though the details were not fully given out:—

"*Report to the Congress of the General Secretary on the Creation of a Permanent International Commission of the International Congresses of Medicine.*

GENTLEMEN,—So as to ensure the continuity of the International Congresses of Medicine the executive committee of the Sixteenth Congress has decided, on the proposal of the President, Professor Calman Müller, to take the initiative for the creation of a Permanent International Commission for our assemblies, on the model of that which exists for the International Congresses of Hygiene and Demography. We have submitted this proposition to the National Committees of our Congress. They were so good as to send us in rotation their approval and support, and agreed at the same time with the scheme of rules attached to our circular. Norway alone declared that it could not pledge itself if the creation of an International Commission should result in imposing financial obligations on the National Committees.

The draft of rules which we submitted to the National Committees was as follows:—

Article I.—The Permanent International Commission of the International Congresses of Medicine has for its functions: (1) to examine the resolutions carried in the sections and to select those that shall be submitted to the plenary assembly; (2) to designate the place where the next Congress shall be held, to fix the date and approve its regulations; (3) to come to a decision in matters of a general kind relating to the organisation of the Congresses and to act as arbiter in case of any difficulty.

Article II.—The Commission shall consist of: (1) the presidents and general secretaries of the International Congresses of Medicine who shall be *ex-officio* members; (2) of one delegate from each National Committee elected by his colleagues. The number of members of the Commission cannot exceed 50."

To this an amendment was moved and carried to the effect that the President of the International Association of the Medical Press should also be a member of the Permanent International Commission. The German National Committee desired to add to Article II. a few lines to the effect that the Permanent Commission should maintain constant relations with the committees of the International Congresses of Specialists so as to avoid as far as possible clashing in regard to the time, place, and programme of such congresses.

"The National Committee for Great Britain and Ireland proposes the following amendment:—

To Article II. should be added that the general secretary of the last Congress held and of the forthcoming Congress should be *ex-officio* members of the Permanent International Commission.

Our executive committee—i.e., the Budapest Congress Executive—accepts this amendment.

Article III.—The Commission shall appoint its bureau (executive), which shall consist of a president, two vice-presidents, a general secretary, and a secretary."

Here an amendment was carried stipulating for four instead of two vice-presidents. The British National Committee also proposed an amendment to Article III. as follows:—

"To Article III., that the bureau of the Permanent International Commission should have fixed headquarters either at The Hague, Brussels, or Geneva, and that this office should consist of a president, two vice-presidents, a general secretary, and a paid secretary.

Our executive committee is of opinion that the bureau of the Permanent International Commission should preferably have its office in the town where the next Congress is to take place and where the expenses and the clerical cost of the Permanent Commission would be met by the executive committee of the forthcoming Congress.

Finally, our executive committee begs of you to be so good as to alter the wording of the draft of rules, Article II., so that it should read as follows: 'a delegate from the National Committee of each State elected by his colleagues.'

When the National Committees had approved the project of creating a Permanent International Commission we asked them to be so good, according to Article II., to elect their delegates to the Commission, the creation of which may be decided upon, so that it may enter upon its functions at once. Sixteen committees hastened to conform with this our request. They elected the following representatives of the National Committees to form part of the Permanent International Committee.

For *Germany*.—Professor Waldeyer (Berlin).
" *Austria*.—Professor Baron de Eiselsberg (Vienna).
" *Bulgaria*.—Dr. Rousseff (Sofia).
" *Denmark*.—Professor Th. Rovsing (Copenhagen).
" *Egypt*.—Dr. A. Ruffer (Alexandria).
" *France*.—Dr. R. Blondel (Paris).
" *Great Britain*.—Dr. F. W. Pavy (London).
" *Greece*.—Professor Kallionzis (Athens).
" *Italy*.—Professor Maragliano (Genoa).
" *Luxembourg*.—Dr. G. Fonck (Luxembourg).
" *Norway*.—Professor Uchermann (Christiania).
" *Holland*.—Professor P. K. Pel (Amsterdam).
" *Portugal*.—Professor Daniel de Mattos (Coimbra).
" *Russia*.—Professor de Ott (St. Petersburg).
" *Sweden*.—Professor S. E. Henschen (Stockholm)."

Such is the report. It will be noticed that it appears as if the Hungarian Executive Congress Committee convoked all the nationalities to elect their representatives, but forgot to carry out its own advice, for no Hungarian name is on the list.

The British proposals given above were accepted, though there was a good deal of resistance as to the selection of The Hague for the permanent office. Several present would have preferred Paris, but the importance of being on neutral ground carried the day. Then, as there was a Polish delegate present, he naturally objected to the alteration of phraseology proposed by the Hungarians. By introducing the word "State" the Poles and other nationalities that have not a government of their own are excluded. The Polish delegates protested at the official position held by so small a principality as Luxembourg while 26,000,000 Poles were excluded. This conflict between races or nationalities and established States has been a source of difficulty at all international congresses, whatever their nature.

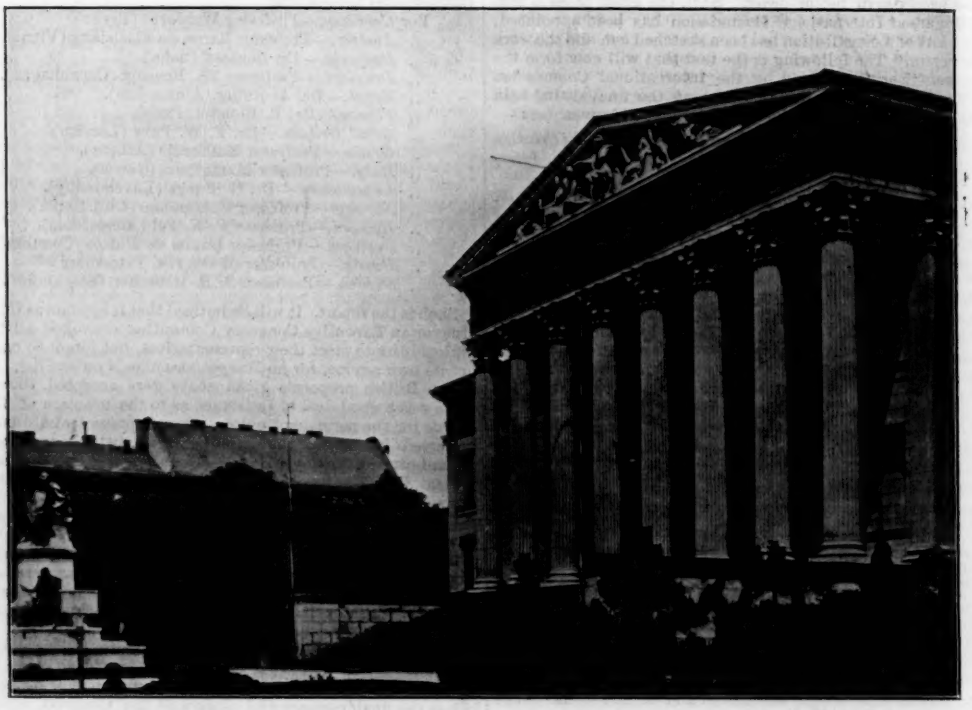
Having got thus far, it was proposed to adjourn, but the more active delegates insisted that a second meeting was necessary, and it was held this morning at 9 o'clock, before the final ceremony of closure of the Congress, which was timed to take place at 10 o'clock. On this occasion some important modifications were introduced. It was decided that members of the Permanent International Commission might vote by correspondence, and that though the headquarters were maintained at The Hague, still the President could convoke the Commissioners to meet in whatever town might be thought most convenient at the time being. Professor Müller objected that the Commission was too numerous to do much, but it was objected that it was never likely to be more numerous than on the present occasion. As the Commission had only been formed on the Friday evening it was indispensable to meet again on the Saturday morning. It would have been better if instead of discussing so long the town to be selected for the headquarters more attention had been devoted to the definition of what was meant. Thus it has been decided to have a paid secretary, but not what are the duties of this secretary; nor does anyone know when the Commission now created is going to meet. Much remains to be done to get the Commission into working order. Still, the fact that it has been created is full of potentialities.

Budapest, Sept. 5th.

The Attendances at the Sections.

When the serious work of the Congress began on Monday, August 30th, some sections attempted to meet as early as 9 o'clock in the morning. This was noble energy, but proved rather a mistake. Most of the members live in hotels and cannot have their breakfasts as quickly as if they were at home. They are also anxious to get their letters and perhaps to glance at the papers before they start out. On the other hand, the numerous Congress entertainments render it impossible to retire early. In these circumstances it is not practical to attempt to hold meetings before 10 A.M. After that hour, however, large concourses assembled for work, and the Congress is to be congratulated on good attendances in most of the sections. It too frequently happens at these congresses that the sections are deserted, and papers are read as a matter of form to audiences of from six to a dozen rather sleepy persons. This sort of thing has now and again occurred at the present Congress,

FIG. 1.



The National Museum, Budapest, where the public addresses were delivered and the joint sectional meetings were held.

FIG. 2.

The Royal Palace, Budapest, where the reception of members of the Congress was held.

but, far from being the rule, it was quite exceptional. On the Wednesday morning, for instance, I found just ten people in the Therapeutical Section; at times also there were hardly more members in the Hygiene Section. The Otology Section on the same day had from 50 to 100 attendants, and I found 30 persons in the Pædiatrics Section. Here, curious to say, and quite exceptionally, everyone spoke French, and a discussion on the therapeutics of the X rays was carried on briskly. The Gynæcological Section was always well attended and sometimes positively crowded. It should be said that the large class-rooms of the old Polytechnikum provided admirable meeting places. They are constructed as theatres, and therefore it was easy to see and to hear, while blackboards, tables, lanterns, and sheets for illustrations and demonstrations of all sorts were furnished. Further, in these vast buildings there was ample room for such adjuncts as a post and telegraph office. There was also an extensive compartment for the distribution of literature, as well as another compartment where each member of the Congress was provided with a large envelope or portfolio into which all invitations and other communications addressed to him were placed. Each morning it was only necessary to call to receive all that was intended for distribution. The alphabetical order in which these portfolio envelopes were kept, and the numerous attendants, made it an easy matter to find the envelope needed. Such a service when so many people are concerned is not an easy matter to organise, for there were 3800 men and just 1000 women members of the Congress, and they were all in expectation of cards and invitations and various other communications. Then there were also several offices set apart for the special use of the press, and here whatever record could be obtained of the speeches delivered was kept together for reference; but the accounts were necessarily very incomplete. Each speaker in the sections was asked to write out, then and there, an account of what he had said. As a rule, the speaker preferred to listen to what was being said in answer to his remarks.

The National Museum for Joint Meetings of the Sections.

For the joint meetings of sections a magnificent building was available. This is the National Museum, constructed in 1836-44 on ground that cost 2,500,000 Austrian crowns, Parliament granting a subvention of 1,000,000 crowns for the building. I enclose a photograph which shows well the frontage of very handsome Corinthian pillars (see Fig. 1). Within are many rooms containing antiquities and archæological objects. There are also a fine library and a magnificent meeting hall that might almost have sufficed for a plenary meeting of the Congress. Here the great full-dress debates on immunity and on appendicitis were held. These meetings drew a large crowd in spite of the fact that nearly all the papers and speeches were in German. Of course, a greater success would have resulted if measures had been taken to enable the very large number of members who do not understand German to follow the proceedings.

While the sections were thus meeting 260 carriages were retained to take the lady members for drives and to show them all that is to be seen in and about Budapest. This long procession of carriages soon became quite a recognised feature in the streets. The ladies' reception committee won for itself golden opinions and on all hands I am informed that the lady members have had a most pleasant week.

FIG. 3.

The Semmelweis Cup

The Municipal Reception.

On Monday evening the municipality entertained the Congress in the same hall where the inaugural meeting had taken place. This building is called the *Redoute*, and was constructed in 1862-65. It stands close to the Danube and contains ball- and concert-rooms, built and decorated in a mixture of the Romanesque and Moorish styles. There are also some fine mural paintings. The picturesque uniforms of the Municipal Guards who lined both sides of the monumental stairs were very impressive. In the great hall the platform was occupied by an orchestra and full chorus of singers. Mademoiselle Marschalkó, Monsieur Venezel, and other well-known performers sang various operatic selections, but those who wished to hear well had to choose their places, and in the crowd the heat was intense, although there were large grated apertures in the walls through which powerful mechanical ventilators were pumping down fresh and pure air. The atmosphere was consequently a great improvement on that at the reception held on Saturday evening in the Fine Arts Palace. There I was unable to detect any signs whatsoever of ventilation. Also the cloak-room at the municipal reception was much better managed. Most people got their own possessions back, though one guest informed me that he found that his opera-hat had grown about two inches in height during its absence from its master. This was all the more vexing to the gentleman in question as he was one of not a few guests who had failed to obtain any refreshment. Consequently he pathetically protested that, to judge from its rapid growth, his hat had been better fed than himself. There were two buffets. To one, at first, ladies only were admitted, and the other was closed as soon as the room in which it was situated was full. There was, I am glad to say, no storming of the buffet such as has occurred on similar occasions more than once, but there was a thirsty and impatient crowd waiting in a bare passage outside. After a while the ladies' buffet was invaded by men and here with some difficulty refreshments were to be obtained. The pity of it is that there was no stint, but, on the contrary, lavish hospitality. It was the method of distribution that was at fault. In one corner, near a door

where the waiters bearing trays emerged, those who were standing by could obtain as much as they needed, while a few feet further on the crowd languished in vain anticipation. Also the exceptionally hot weather added to the difficulties, as it engendered among the guests thirst and impatience. However, I wish to voice no grumbles, and nothing could mar the brilliance and animation of the scene at this highly successful reception.

The Budapest Medical Clubs and the Semmelweis Cup.

Apart from the medical societies of Budapest there are in the city two medical clubs for social purposes, called respectively the "Medical Club" and the "Medical Casino." The former is apparently the more staid of the two, and counts among its members most of the University professors and senior members of the profession. The latter is more especially the general practitioners' club. It has a comfortable house in the Theresa Ring, and has hospitably thrown open its doors to all members of the Congress. The most treasured possession of the Casino is the Semmelweis cup, which is shown in the accompanying illustration. (Fig. 3.) The cup, which is of oxidised silver set with amethysts and other stones, and which stands about a foot in height, was subscribed for by members of the Casino some four years ago to perpetuate the memory of the great teacher of the infectiousness of puerperal fever. Each year a banquet is held and the cup is emptied to the memory of some prominent member of the profession who has died during the year. The chair is taken by one of the leading medical men in Budapest, who delivers an oration, and whose name is then inscribed on the cup. Three such names already appear.

THE SECTIONS.

SECTION I.—ANATOMY AND EMBRYOLOGY.

President, M. DE LENHOSSÉK.
Managing Secretary, M. K. DE TELLYESNICZKY.

Professor NUSSBAUM (Bonn), in discussing

The Origin of Sex,

referred to the various experiments which have been made on the subject, and emphasised the fact that what might be possible with plants and the lower forms of animal life could not be applied to the higher forms. The voluntary production of sex by means of external agencies has been conclusively proved for a large number of species of inferior organisation. In vertebrates and in the case of some plants such agencies are not available. He referred to the more recent theories of Noll and Correns and also of von Hertwig, and remarked that several objections have been raised against attempting to apply them in all cases. The older statements as to the voluntary production of sex by bees and butterflies have been disproved. More worthy of notice are the observations of Wilson, Morgan, Meve and others on the differential cultivation of seminal threads, so that by fertilisation of the egg variety of sex could be produced. With reference to the experiments of Oudemans, Kellog, and Meisenheimer, Professor Nussbaum gave the following explanation. In butterflies the abdomen of the insect as well as the sexual glands are not the same in the two sexes, the difference finding expression in the number of chromosomes. Internal influences determine the sex of the algæ and moulds, but in infusoria, in the lower forms of crab, and also in rotatoria (according to the recent researches of Punnett and Whitney) such is not the case. Professor Nussbaum further said that the material which has come under his notice strengthens the opinion (also expressed by Maupas) that temperature exercises some influence, but his researches also indirectly suggest that the true cause of the production of males is diminished nourishment of a colony of parthenogenetic females.

SECTION II.—PHYSIOLOGY.

President, M. F. DE KLUG.
Managing Secretary, M. PEKÁR.

Dr. A. LOEWY (Berlin), in a paper on

The Interchange of Gases in the Lungs,

said that in normal lungs and also by experiments on animals it can be shown that oxygen and carbonic acid gases can pass in either direction through the walls of the lungs according to the ordinary laws of diffusion of gases. The maximum interchange of gases can therefore take place between the alveoli and the blood in the capillaries of the lungs. The experiments which have been considered to prove that secretion of gases takes place in the lungs are not free from objection, even including those of Bohrs, in that it can be demonstrated that when carbonic acid gas is inhaled under a pressure which is greater than that in the venous blood the gas is given up by the blood. A secretion of gas is not in accordance with physical laws. For it has not yet been proved that in normal circumstances such secretion can take place, and therefore the time has not yet arrived when it can be concluded that the interchange of gases in the lungs is a secretory process.

Dr. DEMOOR (Brussels) read a paper on

The Physical Basis of Secretion, with Especial Regard to Pressure.

He said that a gland, although physiologically differentiated, fulfils a rôle similar to that of numerous cellular systems having no special histological features. From another point of view every organ is a true gland with regard to the blood and lymph, because it makes and eliminates different substances from those elements and so modifies and regulates their constitution. The word secretion can and ought to be applied to that function of every cell in the body which enables it to control the physical and chemical properties of its surrounding medium. From the physical standpoint the mechanism of secretion may well be defined by studying a non-glandular cell system. It is governed by the sensitiveness of cells to osmotic pressure; the living elements react when this external pressure changes and by a complex mechanism resist these external disturbances and so maintain an organic balance. In these circumstances the action of the cell results at one and the same time in the properties of imbibition, solution, and ionic diffusion, molecular partial permeability of the cell walls, and in the phenomena of absorption with the formation of complex chemical bodies. In examining any instance of secretion the following points should be studied especially: the penetration into the cells of water and dissolved substances; the nature of the cellular work performed during the process of secretion; and the mechanism of elimination. But the physical problems which remain to be solved before all these processes are explained are numerous. The part played by the nerves in secretion has not yet been explained.

SECTION III.—GENERAL AND EXPERIMENTAL PATHOLOGY.

President, M. F. TANGL.
Managing Secretary, M. P. HÁRI.

Dr. A. BICKEL (Berlin) communicated a paper on

The Pathology of Secretion and Motility of the Intestinal Canal.

He said that disturbances of the glandular activity in the intestine can be either quantitative or qualitative in their effects, the former depending upon alterations in the production of the secretions, and the latter upon their composition. The disturbances may therefore be distinguished respectively as parenchymatous or neurogenous. In the first named the morbid process affects the gland cells or the surrounding tissues; in the second form the nervous mechanism of the gastro-intestinal tract is the seat of the disturbance. Further, the alterations in the secretion of mucus must be distinguished from that of the secretion of the digestive juices. With regard to the former an excessive secretion only is of importance; this is due to some fault in the parenchyma; the nervous supply may also have an influence though a less powerful one. Dr. Bickel maintained that the various disturbances in the secretion of the digestive juices can be explained in a great measure by a theory which he himself has propounded. According to this suggestion the glandular substance is subjected to a continuous stimulation by chemical substances derived from the blood. The mechanism of this chemical action is governed by the nervous system; that is to say, that influences of an exciting or inhibiting character are constantly being carried to the glands by the nerves supplying the stomach and intestines.

SECTION IV.—BACTERIOLOGY AND PATHOLOGICAL ANATOMY.

President, M. H. PREISZ.
Managing Secretary, M. E. KROMPECHER.

Dr. ROSENTHAL (Paris) read a paper on

The Serum Therapy and Vaccination Treatment of Acute Articular Rheumatism.

He divided the investigations made up to the present on the bacteriology of acute rheumatism into four categories. The first contained the early, uncertain, and negative results, many of which were due to conclusions either too hasty or based on too few experiments, or to errors in technique such as insufficient dilution of the blood. Without considering the finding of pathogenic germs like staphylococcus aureus which often occur in symbiosis with the bacteria to be mentioned, two bacterial theories of acute rheumatism find equal favour with investigators. One concerns the diplococcus of rheumatism and the other Achalme's anaerobic bacillus. The diplococcal theory started in the work of Leyden, 1894, of Triboulet, 1897, and Wassermann, 1899. The significance of micrococcus rheumaticus is interpreted in two different ways. On the one hand Triboulet of Paris and his followers identify this diplococcus with the enterococcus of Thircelin. On the other hand, Wassermann, Poynton, Paine, Shaw, Conner, Walker, Herry, F. Mayer, Malkov, Predtcdensky, Reyffel, Lewis, and others consider the diplococcus to be a specific microbe on account of its vitality, of its power of producing formic acid, of its failure to produce pus experimentally, and the presence of its sensibilisation substance in the blood of rheumatic people, of its hæmolytic power, and of the experimental production of the disease in rabbits by the diplococcus. All these properties, however, are inconstant, and Dr. Rosenthal admits the identity of the diplococcus with the enterococcus of Thiercelin, considering it to be a secondary or concomitant infective organism in rheumatism, subject to a possibility to be mentioned. The theory of Achalme's anaerobic bacillus started with that investigator's work in 1891 and had force given to it by the positive results of hæmobioculture, that is to say, culture in living blood devised by Thiroloix in 1897. More definite confirmation is given by the work of Carrière, Pac and Lesieur, Savtchenko, Melkich, and, above all, of Thiroloix and G. Rosenthal. These last two authors established by a series of experiments that the rheumatic bacillus of Achalme is not the same as the bacillus perfringens, from which it can be differentiated by chemicocultural tests—namely, the fermentation and inversion of saccharose, the nitrification of nitrates, the absence of fœtidity from its cultures, as well as by its different method of sporulation, its power of acting as an aerobe, and its experimental causation of the arthro-visceral symptom group which Thiroloix was able to produce by infecting a rabbit with this bacillus. With a sufficient dilution of the blood and by the use of the author's sealed capsules hæmobioculture gives very numerous positive results. On the other hand, the anaerobic bacillus is found in cases of rheumatism, both normal or abnormal, in the blood, the secretions, and the tissues. Achalme and Thiroloix have found it post mortem and it has never been found in any other disease. Both *in vivo* and *in vitro* it can undergo transformation to a diplococcus, and this fact probably explains the presence of a diplococcus in some instances, at least. This the author calls the theory of the bacterial cycle. The author then described his method by which he prepares Wright's rheumatic vaccine and passed on to the consideration of serum therapy. Antidiplococcic serum therapy has been found quite unprofitable in Germany in acute rheumatism, but better results have been obtained with Rosenthal's serum R. which is prepared at the Grenoble Institute of Serum Therapy and which is obtained from horses vaccinated against the anaerobic bacterium by the injection of cultures of the bacillus at first grown in air and later anaerobic. This serum causes the articular swellings to diminish and the fever to lessen and prevents visceral manifestations of the disease. The author, however, considers that it would be bad treatment to refuse patients, treated by his serum, the benefits of salicylate treatment; and he finished his paper (which included a valuable bibliography of the subject) by giving the following summary of treatment for a severe case of rheumatism. Give the serum R. with salicylate of soda and electrargol, and use the vaccine in the intervals of the exacerbations of the disease.

SECTION V.—THERAPEUTICS.

(PHARMACOLOGY, PHYSICAL THERAPEUTICS, BALNEOLOGY.)

President, M. A. DE BÓKAY.
Managing Secretary, M. Z. DE VÁMOSSY.

Dr. C. COLOMBO (Rome) read a paper containing

A Comparative Estimate of Pharmaceutical and Physical Agents in Therapeutics,

in which he reviewed the physiological and therapeutic action of certain chemical and physical agents on the human body in the light of recent medical literature and of his own experiences. He considered three possible requirements of a physician in search of a special remedy. He may want to produce an effect which could be obtained equally well from a physical or a chemical agent, or an effect which could only be obtained from one or other of those agents. In the first case Dr. Colombo would always choose the physical agent for the following reasons. Such an agent constitutes an external stimulus of which the nature and effect on the body are exactly known. The effect is always the same for the same stimulus with the intensity of which it is in strict proportion. On the other hand, the chemical agent does its work inside the body in contact with the cellular fluids; it follows that, however well we may understand its composition and its action *in vitro*, we remain in the dark as to its effect *in corpore* and of the resulting reaction of the organism. Dr. Colombo quoted examples in illustration of each of these three groups of cases.

SECTION VI.—INTERNAL MEDICINE.

President, Baron A. KORÁNYI.
Managing Secretary, M. H. BENEDIKT.

Professor OLIVER T. OSBORNE (Yale, New Haven) communicated a paper on

Disturbances of the Internal Secretions Clinically Considered.

He said that gigantism is a condition due to hypersecretion of the pituitary and acromegaly a condition primarily of hypersecretion, later hyposecretion, of the pituitary (hypophysis cerebri). The thyroid may not only hypersecrete and hyposecrete, but the component parts of the secretion of the thyroid gland may vary in amount and in chemical constituency and cause various clinical manifestations. These symptoms and signs vary in all degrees and tendency from exophthalmic goitre on the one hand to myxœdema and cretinism on the other. Insufficiency of parathyroid secretion causes tetany. A disturbed secretion of the parathyroids may cause paralysis agitans. Hypertension may be due to hypersecretion of the suprarenals. Continuous low blood pressure and neurasthenic conditions may be due to hyposecretion of the suprarenals. Surgical shock after abdominal operations may be due to the inhibition of suprarenal secretion. Many of the disturbing symptoms of menstruation are due to ovarian insufficiency or to increased ovarian activity, and it is doubtless probable that many nervous symptoms in women are due to ovarian disturbances. Uterine hæmorrhage from various causes may often be stopped by the administration of mammary gland substance.

Dr. H. SENATOR (Berlin) read a communication on

Polycythæmia.

He said that an increase in the number of red blood cells can be either relative or absolute and can occur under both physiological and pathological circumstances. Physiological polycythæmia is observed after the loss of much fluid from the body, after the ingestion of food rich in albumin, in convalescence from anæmic disorders, in newly born infants, after residence in a strange climate, and perhaps in hibernating animals during the winter months. Pathological polycythæmia is found when the blood becomes thickened during disease, in various forms of cyanosis, in certain intoxications and infections in which hæmolysis takes place, and occasionally in diseases in which unknown changes in the blood occur, and in many affections of the nervous system. In all these pathological circumstances, in addition to the relative polycythæmia due to a thickening of the blood, the diminution of the tension of oxygen in the blood must be considered

as a causal factor, whereby the hæmatopoietic organs are stimulated to greater activity. These conditions must not be confused with polycythæmia megalosplenica described by Vaquez, and polycythæmia hypertonica described by Geisböck. In both of these a primary affection of the bone marrow must be taken to be the cause of the polycythæmia. Geisböck's disease, of which very few examples have been recorded, may be distinguished from that of Vaquez by the fact that in the former there is a high blood pressure together with hypertrophy of the heart, and enlargement of the spleen cannot be demonstrated. The changes in the blood, which have been more especially studied in Vaquez's disease, consist in an increase in the viscosity of the blood and a higher specific gravity. The resistance of the erythrocytes does not appear to differ from the normal, whilst the capacity for the absorption of oxygen lies within the usual limits, or is increased. The respiratory exchange in many cases is found to be high. With regard to treatment, a vegetable diet and bleeding give favourable results. Many cases of primary polycythæmia cannot be placed under either of these categories.

Professor CARL VON NOORDEN (Vienna) read a paper on

Obesity.

He said that he should only consider the matter from the point of view of etiology. In the most common forms the condition is due either to over-feeding or lack of exercise; frequently these two causes are combined. It is quite easy to understand why excessive corpulence follows these two factors. It is much more difficult to explain those cases in which, although the proper amount of food is taken and sufficient exercise is indulged in, obesity develops. This has been termed constitutional obesity. After discussions which have been prolonged for years, and after careful investigations, the conclusion has now been arrived at that in such cases the oxidation power of the organism has become weakened. This is a factor which bears a direct relationship with the thyroid gland. Temporary changes in that gland raise or depress the power of oxidation. Professor von Noorden on these grounds designated the various forms of constitutional obesity "thyreogenic obesity" and proposed the following classification: (*a*) primary thyreogenic obesity, dependent upon actual changes in the thyroid, such as atrophy, degeneration, functional weakness, and so on; (*b*) secondary thyreogenic obesity, that is to say, functional anomalies of the thyroid dependent upon the action of other organs, such as the pancreas, hypophysis cerebri, suprarenals, thymus, pineal gland, and perhaps other organs also, so-called chemical correlations by means of internal secretions. These questions have not only a theoretical interest, but possess important bearings on therapeutics, as anomalies of metabolism known under the term of obesity can only be treated rightly when in any given instance the origin of these anomalies has been correctly recognised.

SECTION VII.—SURGERY.

President, M. J. DOLLINGER.
Managing Secretary, M. H. HÜLTL.

Dr. ARPAD G. GERSTER (New York) communicated a report on

The Treatment of Diffuse Free Progressive Peritonitis.

The basis of this report is formed by 609 cases of the malady, observed at Mount Sinai Hospital during about ten years. Of these, 461 were caused by the appendix (out of a total of 3144 cases of appendicitis) and 148 were due to injuries and affections of other viscera. The author points out the difficulties that surround the making of a precise diagnosis and prognosis in peritonitis. He further indicates the uncertainties dependent upon these difficulties in establishing a uniform and reliable nomenclature of the disease, to which again may be ascribed the small value to be placed on statistics. In accepting the diagnosis of free progressive peritonitis, very strict criteria must be insisted on; and even with these statistics have only a relative value. Every case of appendicitis, and, *a fortiori*, every case of peritonitis, in whatever stage of the malady it may present itself to the surgeon, ought to be operated on without delay, excepting cases imminently and palpably moribund. The arguments by which the advice is supported not to operate upon "intermediate" cases of appendicitis on account of the high mortality are fallacious. A tabulated *résumé* of the results of operative treatment in 461 cases of diffuse free progressive peritonitis, due to appendicitis, shows a steady decline of mortality from 79 per cent. in 1899 to 14 per cent. in 1908. This improvement is ascribed to the abandonment of heroic and incisive measures in cleansing of pus and in drainage of the peritoneum, which were in vogue in 1899, and the adoption of early, simple, rapid and less exhausting operative procedures, complemented by Fowler's posture and Murphy's proctoclysis. Of complications, the most common, observed in 9·3 per cent., was that of secondary intraperitoneal abscess. This the author regards as a residual manifestation of a primarily general process. Mechanical ileus, rather frequent (15·8 per cent.) in 1899, has become much rarer (5·4 per cent.) since the abandoning of the use of extensive gauze packings. The author's procedure is as follows: (1) Preliminary lavage of the stomach; (2) anæsthesia by nitrous oxide gas followed by ether; (3) rapid exposure of primary focus of infection; (4) stoppage of visceral leak by suture or tamponade; (5) gentleness and rapidity of procedure, avoidance of friction by wiping, &c.; (6) no irrigation; (7) soft rubber tube drainage of right iliac fossa and, if necessary, of Douglas's pouch; (8) closure of external wound by three layers of suture; (9) for paralytic ileus repeated gastric lavage, low and high enemata, or systematic rectal lavage, enterotomy by stab done in intractable cases only; (10) rational administration of opiates; (11) withholding of all ingesta while vomiting is present; (12) Murphy's proctoclysis; (13) Fowler's position; (14) early incision and drainage of secondary abscesses; (15) laxatives, calomel and salts, to be given only after stoppage of vomiting; and (16) tampons used for walling off necrosed areas not to be disturbed without necessity till they become detached of themselves.

Dr. ROBERT W. LOVETT (Boston) communicated a paper on

The Treatment of Paralytic Deformities in Children.

He said that the subject of tendon transference in paralytic deformity had been thoroughly discussed and no routine debate of the matter was needed. The varieties of paralytic deformity were first considered. These he classified as seven: (1) deformity due to simple gravity distortion; (2) deformity due to adaptive shortening and lengthening of soft parts; (3) deformity due to the contraction of non-paralysed limbs; (4) distortion from weight bearing on partly paralysed limbs; (5) deformity of the trunk due to effort to secure equilibrium; (6) bony deformity following persistent malposition; and (7) dislocation. The importance of preventing paralytic deformity was next discussed, recognising the fact that deformity is in nearly all cases preventable. The use of supporting apparatus was advocated from an early period for the purpose of preventing malpositions of the paralysed limb. The treatment of paralytic deformity was dealt with under the heads of mechanical treatment and operative and therapeutic measures, the development of the muscles by muscle training, massage, and electricity. The possibilities of mechanical stretching were: (1) the stretching of contracted tissues; (2) the shortening of lengthened tissues; and (3) the influence of growth toward normal by properly fitting apparatus. In describing operative treatment tendon transference was first mentioned and the conclusions were presented from the operative results at the Children's Hospital, Boston. Causes of operative failure were considered with the measures by which the results have been improved and the factors favourable to the performance of the operation in suitably selected cases. The results of a circular of inquiry sent out to the members of the American Orthopædic Association were then given, the conclusions from this being that the operation is on the whole useful, and that periosteal insertion is preferable to insertion of tendon into tendon. The causes of failure were also reviewed. Dr. Lovett held that the after-treatment was fully as important as the operative, and called attention to the fact that the treatment of paralytic deformity should consist of a combination of the three methods, that the operative should not overshadow the others, and that the operation of tendon transplantation in properly selected cases must be regarded as a useful and satisfactory one.

SECTION X.—DISEASES OF CHILDREN.

President, M. J. DE BÓKAY.
Managing Secretary, M. P. HEIM.

Professor HUTINEL (Paris) read a paper on

The Pathogeny of Rickets.

He said that the pathogeny of rickets is still obscure. The theories put forward to explain it are many, but most of them have the fault of being too exclusive. A study of the cartilaginous and periosteal ossifications, and especially of the formation of bone in the medullary cavity, can serve as the basis of a wider explanation. At the beginning of the disease the cartilage at the line of junction of the epiphysis and the diaphysis is thickened (chondroid tissue, as it may be called), and between it and the cancellous bone appears a new structure, sometimes in islets and partly in thin bands, which may be called "cancelloid tissue." When the disease is most marked the lesions become more accentuated and then nodes are formed at the site of the epiphyses. The thickening of the "chondroid" tissue is great, and between it and the cancellous bone the "cancelloid" tissue forms a wavy band. Sometimes the diaphysis of the long bones has an interleaved appearance. In the "chondroid" tissue the cartilaginous cells have multiplied in a tumultuous manner, and the intercellular substance forms a kind of network between the groups of cells. The cancelloid tissue is composed of islets of cartilaginous tissue of which the intercellular substance has undergone an imperfect calcification; these islets are separated by vessels enclosed in connective tissue. The "chondroid" zone, the "cancelloid" zone, and even the cancellous tissue are intermingled, especially in severe cases. The new subperiosteal bony tissue is composed of alternations of layers of bone and of connective tissue. The marrow is more abundant than in health; at first it exhibits a proliferation (sometimes enormous) of the myeloid tissue. It enlarges the lacunæ of the cancellous bone and transforms them into hollows communicating with the medullary cavity, and it leads to absorption of the layers of bone which surround the cavity. Histological examination shows evidence of a great cellular activity; the fatty areolæ disappear; sometimes there is some sclerosis, especially round the arterioles. Often there are to be seen islets of lymphoid tissue. The quantitative changes are even more important than the qualitative; it is not, however, the marrow which breaks through the line of ossification: this is caused by the processes composed of connective tissue and blood-vessels. Are these lesions of inflammatory nature? It seems more reasonable to say that they are dystrophic. In fact, in addition to the reactions which are truly inflammatory there are others which are of a regressive nature If in rickets the dystrophic action manifests itself especially in the bony tissue, it does not limit itself to that tissue; for often it attacks the tissues of other organs, especially when they are developing. This idea assimilates rickets to other dystrophies which are seen in children during the most active periods of development. When the patient is very young the troubles of assimilation affect all the tissues, causing a kind of general atrophy; when the patient is older certain organs show more resistance, and the organs affected are those with least power of resistance. Later still are seen forms of anæmia which resemble chlorosis in their hæmatological characters. Other children show a lymphatic condition the characters of which vary according to the age of the child. These various morbid manifestations appear to be allied to rickets; they occur in analogous conditions and can coexist with rickets in variable proportions. These dystrophies can occur at all periods of childhood, but apart from the early years they show themselves again at puberty. Chlorosis, bony deformities, and the status lymphaticus of adolescents have certainly points of contact with the dystrophies of young children.

Dr. J. COMBY (Paris), in a paper on

Cyclic Vomiting in Children,

said that periodic or cyclic vomiting occurs in attacks lasting two or more days with variable intervals; it is met with between the ages of two and six or eight years. It is seen a little more frequently in boys than in girls. Sometimes several members of the same family are attacked in turn. A neuro-arthritic heredity is present in many cases. He had noticed (as pathological conditions preceding the vomiting) sore throat, adenoids, dyspepsia, a tendency to vomit, entero-colitis, and appendicitis. It has been ascribed to the liver and fatty acid poisoning, acidosis, and acetonæmia. If in fatal cases a fatty condition of the liver has been found it is very evident that it has not been primary but secondary to digestive troubles. It is necessary to look for lesions of the appendix. The symptoms consist of uncontrollable vomiting with rapid wasting, which suggests meningitis, peritonitis, internal strangulation, or appendicitis. Constipation, fever, and acetonuria are frequent. The prognosis is generally favourable, but at least ten fatal cases have been published. It is necessary to think of appendicitis which is often the cause of periodical attacks of vomiting. After having eliminated indigestion, the ingestion of some poisonous substance, migraine, intestinal obstruction, and peritonitis, the appendix should be examined by an operation. Medical treatment consists of the administration of alkalies, a vegetarian diet, hydrotherapy, and saline injection. Surgical treatment is comprised in appendicectomy in an interval. In 50 per cent. of his own cases he has found chronic appendicitis.

SECTION XI.—NEUROLOGY.

President, M. E. JENDRÁSSIK.
Managing Secretary, M. CH. SCHAFFER.

Dr. B. SACHS (New York) read a paper on

The Pathology of Hereditary Diseases of the Nervous System.

The term "family diseases" is, he said, preferable to "hereditary diseases," since very few diseases are conveyed directly from parent to child, whereas the morbid tendency exists in one or both parents which leads to the development of a family disease. There is a very marked difference between the cerebral and the spinal groups; the family diseases of cerebral origin are due to changes in the highest nerve elements—viz., the ganglion cells; the spinal affections are due largely to disease of, or mal-development of, one or more systems of white fibres. The one exception to this group is the spinal form of progressive muscular atrophy, and that is only rarely inherited. Family diseases of cerebral origin include hereditary diplegia, hereditary optic nerve atrophy, and amaurotic family idiocy, the infantile form (Tay-Sachs) and the juvenile form (Spielmayer and Vogt). In both types of the latter disease the ganglion cells of the entire nervous system exhibit a marked swelling of the cell body and of the dendrites, while the axones remain intact. The active cytological factor is an abnormal swelling of the hyaloplasm and not a degeneration of the fibrillæ. The occurrence of the disease among Hebrews suggests that in the members of a race whose nervous system is prone to deterioration children are born with the highest nerve cells so defective that they are entirely unequal to perform the ordinary vital functions, and at a very early period undergo a typical disintegration. It is not the function that unfits them, but they are *ab ovo* defective.

Professor BIANCHI (Naples) read a paper on

The Function of the Frontal Lobes,

of which the following is an abstract: 1. For experimental work on the frontal lobes the only satisfactory animal is the ape, since in it these structures are well developed and their architectonic structure corresponds to that of the human cerebrum. The psychical activities of each ape must be carefully studied both before and after operation. 2. In front of the motor area (Rolandic) is an electrically excitable zone extending from the mesial margin of the hemisphere over the outer aspect to where that surface becomes continuous with the orbital surface. It is an integral part of the frontal lobe and corresponds to the prefrontal fissure. From this area the muscles of the neck, eyes, and ears can be stimulated. 3. The extirpation of the frontal lobes never produces permanent motor or sensory defects. Visual defects, similarly, are fugitive. 4. The whole intellectual life of the ape is altered after removal of the frontal lobes. Perception, attention, inhibition, and in particular memory and association, are enfeebled. The animal has no longer the power of profiting by experience. Sometimes stereotyped movements and tics are observed. 5. As a result its psychical tone is lowered: it lacks initiative, courage, and spirit.

SECTION XII.—PSYCHIATRICS.

President, M. E. E. MORAVCSIK.
Managing Secretary, M. CH. HUDOVERNIG.

Dr. SOMMER (Giessen) read a paper on

Imbecility in its Clinical and Medico-Legal Aspect,

his conclusions being arranged under the following eight headings. 1. Idiots treated in institutions and the inmates of reformatory schools had many points of resemblance in bodily and mental characteristics. 2. It was therefore desirable that there should be a uniform method of investigating all such cases, and the further requirements for special groups might be easily met by a more extensive application of the special sections of the investigation schedules and by supplementary pages. 3. In studying congenital mental weakness as observed among the inmates of idiot institutions and reformatory schools a great many psychological and psychophysical methods of examination might be usefully applied, in addition to those given in the investigation schedules, for the purpose of obtaining a better insight into the mental processes. 4. This improved system of classification was valuable both medically, psychologically, and educationally; it, moreover, led to a better coöperation between the medical and educational authorities in general questions, as well as in respect to the special requirements of individual cases. 5. In the investigation of juvenile criminality it was to be remembered that a portion of the inmates of reformatory schools were obviously imbecile; when these were left out of consideration it would be found that the ordinary methods of investigation often failed, whilst, on the other hand, in cases of apparently normal mental condition, more particularly as regards the intellectual faculties, there were apt to be hysterical and epileptoid manifestations as well as evidence of the existence of congenital moral defects. 6. Possession of the mental power requisite for comprehending the culpability of an act was a bad sign in a juvenile offender. 7. When juvenile offenders were of apparently normal mental capacity, the investigation respectively of their environment and of their inherited characteristics in connexion with the study of family circumstances often led to the recognition of the external or internal sources of criminality. 8. It was very probable that analysis of the external and internal influences would more and more tend to show that juvenile crime both in its individual and in its social relations was to be regarded as a disease.

Dr. W. WEYGANDT (Hamburg) said that there were only a few places in which lunacy practice took cognisance of the ideal classification of anomalous mental conditions, the study of psychological distinctions with appreciation of bodily peculiarities and special features in the progress of the cases, subsequently confirmed by the results of post-mortem examination. Nevertheless, in the least esteemed branch of psychological medicine—namely, the investigation of feeble-mindedness in children—science was continually advancing towards this ideal, inasmuch as it obtained increasing success in separating from the mass of complex phenomena a number of groups which exhibit features entitling them to be regarded as distinct clinical entities. These clinical entities or so-called "units" were often conditioned by definite psychical qualities, by similarity in the development of the case, by bodily peculiarities, and by special lesions found on necropsy. The groups which were at the present day more or less sharply defined were amaurotic idiocy in members of a family, and imbecility associated (1) with abnormal states of the thyroid body, (2) with encephalitis (porencephaly, atrophic sclerosis, &c.), (3) with hydrocephalus, (4) with meningitis, (5) with the Mongolian type of features, and (6) with epilepsy; to these must be added tuberculous sclerosis, dementia infantilis, dementia præcox, and the group due to embryonic inhibition of cerebral development. Over and above these there remained a mass of cases which could not yet be clinically differentiated into special classes, and which, more particularly in slight degrees of mental defect, could not be precisely classified during life. Hysteria, neurasthenia, and melancholia were mental conditions deserving attention. In arriving at practical conclusions such as were required in judicial decisions and in questions connected with the administrative protection of imbeciles the first thing to be considered was the special nature of the defect, because the various groups exhibited varying degrees of unfitness for general society and also of capability for being influenced. The second and even more important point was the degree of the defect. For instance, epilepsy was of itself a disease of the greatest importance in connexion with crime; the worst cases, however, were quite unfit to be at large, and on the whole the severe cases were of minor importance from a medical point of view, whereas the mild ones devoid of special characteristics were practically far more important, and psycho-neurotic cases were most important of all. The earlier we can recognise a case to be defective in a material degree and the earlier we can draw legitimate inferences as to the person's mental capacity and suitability for institutional treatment, the more positively can it be referred to a definite group in accordance with clinical and still more in accordance with bodily peculiarities. The investigation of the mental deficiency formed the easiest part of the problem; in addition to this it was essential to take into consideration the other psychical conditions especially in the departments of sensation and will. In estimating the degree of feeble-mindedness the intellectual level of the person's environment must be kept in mind, and the same precaution should be observed even in the case of law-breakers who have not incurred any suspicion of mental defect. In answering a question as to a person's capacity for forming an opinion the most practical course was to endeavour to compare the case with a normal child at a definite age-period—of course, with due regard to any anomalies external to the intellectual sphere. The proper treatment of a criminal imbecile was a matter for the joint consideration of medical practitioners and sociologists.

Professor VON TSCHISCH (Dorpat), in a paper devoted to the subject of the

Nervous and Psychical Manifestations of Arterio-sclerosis,

said that a common disease, especially between the ages of 50 and 55, was "arterio-sclerotic neurasthenia," characterised by anxiety and depression (in association with cardiac symptoms), insomnia, heaviness and numbness of the head, fatigability, and incapacity for work. On the mental side it is distinguished by apathy, ill-humour, and irritability. From this stage the transition is a gradual one to arterio-sclerotic dementia, in which the memory is greatly impaired, all psychical processes are slower, the patient becomes stupid, his opinions and judgments are mechanical and elementary, his imagination atrophies, and his will-power diminishes.

According to Dr. CRAMER of Göttingen, speaking on the same subject, the nervous phenomena of arterio-sclerosis precede the mental. The former usually consist in a triad of headache, giddiness, and defective memory, associated with, or followed by, transient pareses, slowing of speech, sluggish and unequal pupils, and paræsthesiæ. Prominent among psychical symptoms is depression, sometimes also irritability and a paranoid symptom-complex.

Dr. FRIEDLÄNDER (Frankfort), in a paper on

Hysteria and Modern Methods of Psycho-analysis,

criticised Freud's theory of hysteria, to which many contributions have been made since its enunciation in 1895. According to that author, the disease is always caused by a psychical trauma, which remains subconsciously active in continuing the neurosis, until such time as it is consciously awakened, when it can be cured. The treatment of hysteria must therefore be a psychological one, and hypnosis must be resorted to in many cases. Freud has further maintained that this psychical trauma is always of a sexual nature, and, indeed, he goes so far as to say that a "lesion" of this description is at the basis of all neuroses (*keine Neurose ohne gestörtes Geschlechtsleben*). Dr. Friedländer proceeded to point out the grave risks of a course of psycho-analytic treatment, often extending over months, to which female patients in particular are subjected, and emphasised the uncritical nature of this psychological—i.e., sexual—cure as applied to all neuroses. He mentioned cases in his own experience where hysteria has been permanently cured without any resort to psycho-analytical methods. He held that we do not possess any therapeutical method which is applicable to every case of that neurosis, and that the procedure vaunted by Freud is far from being the most satisfactory of those that are in use.

SECTION XIII.—DERMATOLOGY AND VENEREAL DISEASES.

President, M. S. RÓNA.
Managing Secretary, M. E. BASCH.

M. H. HALLOPEAU (Paris) read a paper on

Recent Progress in the Clinical Study of the Evolution of Syphilis.

He said that when the chancre manifests an intense reaction, and the morbid products formed by it are of great virulence, it is a sign of an over-activity of the treponema. The germs given off by the chancre may take different routes. (*a*) They may go by the lymphatics, which transmit them with or without lymphangitis to the neighbouring lymphatic glands. (*b*) They may go by the capillaries. (*c*) They may enter the neighbouring tissues, where they spread. These last show a higher degree of virulence than those which later come from the lymphatic glands, for the glands possess a great power of attenuating the micro-organisms. Amongst the ultra-virulent manifestations must be put most of the secondary manifestations of the vulva, of the prepuce, and of the parts around the anus. When the lymphatics and the lymphatic glands do not transmit the micro-organisms, infection can only take place by the blood-stream, and then the roseola does not appear, and, therefore, it may be said that the roseola is associated with the early affection of the lymphatic glands. The generalised infection only takes place at the beginning of the secondary stage and later the lesions are spread exclusively by intra- and extra-inoculation. In grouped syphilides the initial lesion often shows signs of a virulence greater than that of the lesions derived from it. On the other hand, extensive cicatricial syphilides may continue to spread with increasing outbursts, so it is clear that the resistance of the tissues can be increased or diminished. As the disease advances in evolution it gives rise to modifications in the intensity and the mode of action of the treponema, and, consequently, in the nature of the toxins produced. The pathological action of the treponema is entirely due to the soluble substances to which it gives rise. In different subjects the treponema is prone to attack certain tissues. There are also affections liable to be produced under the influence of syphilis which later progress spontaneously, these being the so-called syphilitic deuteropathies.

SECTION XIV.—DISEASES OF THE URINARY TRACT.

President, M. J. P. HABERERN.
Managing Secretary, M. G. DE ILLYÉS.

Dr. VERHOOGEN and Dr. DE GRAEUWE (Brussels) communicated a paper on

Total Extirpation of the Bladder.

Total cystectomy, they said, has been followed by a death-rate of 31 in 59 cases collected from literature—i.e., a mortality percentage of 53·4. This serious result of surgical intervention does not depend directly on the removal of the bladder, for it is a simple operation. The danger results from the difficulty of ensuring the free escape of the urine coming from the kidneys and of preventing their infection. It is still more difficult because the ureters are generally already distended and the kidneys affected before operation. The methods which have given the best results are those in which the ureters have opened on to the skin (30 per cent.) or have been left free in the wound (13 per cent.). When, on the other hand, the ureters have been carried into the bowel the death-rate becomes formidable (66 per cent.), even when precautions have been taken to have a valve at the ureteral orifice, or to exclude the portion of bowel into which the ureters open. The advantages of the two methods can be combined by performing first a double nephrostomy and then a cystectomy with ureterostomy into the excluded cæcum. If the ureterostomy works well, the renal fistulæ may be allowed to close. Total cystectomy is indicated in (1) malignant tumours of the neck of the bladder or in the neighbourhood of the ureteral openings; (2) malignant tumours elsewhere in the bladder too extensive for a partial operation; (3) recurrent malignant growths; (4) papillomata too numerous to be removed in any other way; and (5) involvement of the bladder to a great extent by neighbouring malignant growths.

Dr. THORKILD ROVSING (Copenhagen) read a paper on

The Infection of the Urinary Tract by Colon Bacilli.

In most cases the bacillus coli, he said, reaches the urinary organs by way of the blood stream, and the bacilli give rise to a diffuse nephritis, generally slight but occasionally acute. Often the nephritis gets well rapidly and only a bacteriuria remains. Frequently the bacilli are introduced into the urinary passages by means of instruments, or they may wander in owing to a paralysis of the sphincter, but this can never occur if the sphincter is efficient. Occasionally infection occurs from the spreading of inflammation from neighbouring organs. Since 1897 Dr. Rovsing has treated 285 cases of infection of the urinary passages with the bacillus coli. In 180 the disease arose as an acute nephritis or nephropyelitis in patients who had never been catheterised. Some of the starting points were tonsillitis, cholecystitis, acute enteritis, appendicitis, colitis, cancer of the colon, and typhoid fever. Clinically, the hæmatogenous nephritis frequently commences with febrile symptoms and hæmaturia. The blood soon disappears from the urine but albuminuria remains, often with pus and casts. Many miliary abscesses may be present in the kidney, and microscopically there can be seen minute centres of inflammation caused by bacillary emboli. Pyelitis and pyelonephritis may be temporary or chronic; when chronic they are chiefly associated with calculous pyelitis. Dr. Rovsing discussed the relation of the colon bacillus to the formation of calculus deposits. Cystitis is the rarest manifestation of infection by the colon bacillus, for it does not possess the power of attacking the intact mucous membrane of the bladder. As to treatment, the experience of Dr. Rovsing has led him to the conclusion that operative interference is never necessary in uncomplicated infection by the bacillus coli, but if complications are present which hinder recovery operation may be necessary, for instance, if calculi or stricture of the ureter are present. The rational treatment of uncomplicated bacillus coli infection is by flushing out the urinary passages by a free stream of fluid. This can be done by leaving a catheter in the bladder and giving the patient three or four litres of distilled water to drink in the 24 hours. Salol, a grain three times a day, is useful. When the urine has become free from bacteria 50 cubic centimetres of a 1 per cent. solution of nitrate of silver are injected into the bladder and the catheter is withdrawn. There is no object in washing out the renal pelvis through a ureteral catheter. In severe cases of pyelonephritis, in which other treatment has been unavailing, Dr. Rovsing has used Wright's vaccine treatment with benefit.

Dr. E. ESTOR (Montpellier) read a paper on

The Results of the Treatment of Ectopia of the Bladder.

He considered that amongst the harmful results caused by ectopia of the bladder there are three which are of especial importance; they are—the incontinence of urine due to the absence of a sphincter, the pain, and the suppuration resulting from the chronic inflammation of the mucous membrane of the bladder exposed as it is to many irritating and infective conditions. The best treatment is that which deals with these especially. He passed in review the many methods employed and discussed their value, and he arrived at the following conclusions: 1. None of the methods employed gives an entirely satisfactory result. 2. The methods which aim at a plastic restoration of the bladder or the suture of its edges should be abandoned because they do not cure the incontinence of urine 3. Among the many methods of deviation of the course of the urine there are two which give good results, and which prevent incontinence; these are Maydl's method and Soubbotine's method. 4. The cases published are not sufficiently numerous to enable a decided opinion to be given as to which is the better. Nevertheless the following opinions may be expressed: (1) Soubbotine's method protects more thoroughly against ascending infection than does Maydl's method; (2) from the point of view of technique Soubbotine's method, because of its complexity and the length of the treatment, is inferior to Maydl's method; and (3) to appreciate the results obtained by these two methods it is necessary to follow up the cases for a number of years, for it might happen that the anal sphincter might be sufficient to retain the urine at first, but later it might allow a certain amount of incontinence.

SECTION XV.—RHINOLOGY AND LARYNGOLOGY.

President, M. E. DE NAVRATIL.
Managing Secretary, M. Z. DONOGÁNY.

Sir FELIX SEMON (London) communicated a paper entitled "*A Contribution towards the Diagnosis of Laryngeal Cancer.*" The author related and graphically illustrated those cases of malignant disease from his own practice, in which exceptional diagnostic difficulties were encountered, and in a number of which diagnostic mistakes were made. They amounted to 13 in a total number of 246 cases of malignant disease seen in 33 years' practice, and the author, after faithfully recording the salient features of each of them, exhorted in conclusion his younger *confrères* not to consider the early diagnosis of malignant disease of the larynx as exceedingly difficult, but to keep in mind such unusual features as were present in the following series of cases now brought forward. 1. Malignant disease of the larynx, appearing first in the form of a curious tumefaction of the left vocal cord, which remained stationary for nearly two years before showing its true nature. 2. Chronic infective inflammation, simulating malignant disease of the larynx. 3. Extravasation of blood into the right vocal cord and below it, simulating malignant disease of the larynx. 4. Laryngeal tuberculosis in which the laryngoscopic appearances left the diagnosis between malignant disease and tuberculosis quite undecided. 5. Laryngeal tuberculosis simulating malignant disease in an old gentleman aged 70 years. 6. Tuberculous tumour, simulating malignant disease, in the anterior commissure of the vocal cords. 7. Leucoma of a vocal cord, simulating malignant disease of the larynx. 8. Epithelioma of the left ventricle of Morgagni, at first mistaken for papilloma. 9. Epithelioma originating in the form of an angioma. 10. Papilloma, occupying the whole posterior part of the right vocal cord and the inner aspect of the right arytenoid cartilage in a male subject, aged 60 years, mistaken for malignant disease of the larynx. 11. Granuloma originating in the scar due to removal of an epitheliomatous tumour of the right vocal cord. 12. Inflamed papilloma in a male, aged 60 years, closely simulating the appearance of an epithelioma of the larynx.

SECTION XVI.—OTOLOGY.

President, M. C. DE LICHTENBERG.
Managing Secretary, M. B. SZENES.

Mr. ARTHUR H. CHEATLE (London) communicated a paper on

The Infantile Types of the Temporal Bone and their Surgical Importance.

He said that by infantile type is meant the persistence in an exaggerated degree throughout life of the anatomical conditions of the outer wall of the antrum and mastoid mass as seen in infancy. In the adult the mastoid mass is generally *diploetic* but very rarely *dense;* the outer wall of the antrum is always dense and thick and lined internally by the cells which form before birth ("fœtal cells"), and a layer of dense bone separates the cavity of the antrum from the mastoid mass. The types are found in about 20 per cent. of normal bones. The lateral sinus is usually forward. The effects on suppuration in the antrum and on operations for suppuration are considered. The types are conducive to chronic suppuration. The density of the outer antral wall so frequently found in chronic suppuration in the antrum is a factor in producing chronic suppuration and is not an osteo-sclerosis. The paper was illustrated by lantern slides and numerous specimens.

Mr. P. MACLEOD YEARSLEY (London) communicated a paper on

The Treatment of the Later Stages of Chronic Catarrhal Deafness.

He said that the sole object of the paper was to provoke discussion, and it is only by free, and especially international, discussion that a hopeful outlook as to the treatment of the later stages of chronic non-suppurative middle-ear inflammation can be cultivated. The paper was entirely confined to post-catarrhal changes in the middle ear, the intention being to obtain from the meeting expressions of opinion upon the results of prolonged inflation with air, vapours, or other agents, of intratympanic injections, of otomassage, of methods for the resolution of pathological fibrous tissue, and of operations. The importance of accurate diagnosis by systematic examination and functional testing was insisted upon. He held the Eustachian catheter superior to the Politzer bag and methods of self-inflation were condemned. Inflation must be systematic and frequent to be of any real use, and Eustachian bougies were valuable. Electrolysis, he said, is seldom required and is disappointing in its results. Information is wanted as to the utility of intratympanic injections and whether Cohen-Kysper's solution of gastric juice has yielded any good results in other hands. Pneumo-massage is valuable in certain cases, and the injection of thiosinamin or of fibrolysin affords possibilities of success. As regards operations, mobilisation of the malleus is one of the most valuable. Exploratory tympanotomy and removal of relaxed portions of the membrana tympani are occasionally useful.

SECTION XVII.—STOMATOLOGY.

President, M. J. DE ARKÖVY.
Managing Secretary, M. J. SZABÒ.

Mr. KENNETH W. GOADBY (London), in a paper on

The Present State of the Knowledge of the Prophylaxis of Dental Caries,

said that the prevention of dental caries holds the same position with regard to stomatology that preventive medicine does to general medicine, and, as in preventive medicine, both preventive measures and treatment of the disease are essential factors. The recent developments in the appointment of qualified officers to treat dental disease in the army, navy, industrial schools, public schools, and institutions, as well as the recent development of municipal dental surgeons, are important factors in distributing knowledge. The principles laid down by stomatologists for their guidance in the prophylaxis of caries are based upon a consideration of the pathology, but sometimes important questions are overlooked. In dental caries the etiology must be considered under the heading of—(*a*) the predisposing causes: structure, environment, and position; (*b*) exciting causes: micro-organisms and foodstuffs; and (*c*) contributory causes: hygiene. In 100 cases taken at random from his notebook 25 per cent. had no dental caries. These were cases with suppuration of the gums and alveolar processes. The bacteria present in the mouths of all these people had been isolated and carefully tested by bacteriological means, including fermentation of carbohydrates. It was found that in the mouths where dental caries was not present organisms capable of fermenting lactose were less frequently present than in those in which caries was present. In mouths without caries 64 per cent. were free from lactose fermenters, whilst in mouths where caries was present, or had been present and was treated, the lactose fermenters were present in 60 per cent., a fact which may have an important bearing on the etiology of caries.

SECTION XVIII.—HYGIENE AND IMMUNITY.

President, M. L. DE LIEBERMANN.
Managing Secretary, M. P. KLASZ.

Mr. GILBERT J. FOWLER, D.Sc. (Manchester), communicated a paper on

The Sanitary Uses of Ozone.

The author discussed the application of ozone to the purification of water and air in regard to the most recent developments. The purification of *water* was considered in reference to: organic matter in solution and suspension; colour, smell, taste; organisms—e.g., algæ, infusoria, bacteria; metallic impurities. It was concluded that ozone treatment of water is to be recommended: (*a*) where adequate sand filters are costly to erect and difficult of supervision; (*b*) where the amount of organic matter in solution in the water is limited; (*c*) where the pollution is mainly bacterial and of an intermittent character; and (*d*) where electrical power can be cheaply obtained. It must be understood, however, that some preliminary treatment for the removal of suspended matter, whether consisting of ordinary mud or algæ and infusoria, should always be provided. Reference was made to successful experiments on the purification by ozone of air polluted by human respiration, and to various miscellaneous applications. Finally, it was concluded that a stage has now been reached when the use of ozone, for the sanitary purposes described in

the paper, deserves the careful attention of those engaged in public health problems.

SECTION XX.—MILITARY AND NAVAL SANITARY SERVICES.

President, M. J. KEPES.

Managing Secretary, M. A. SZEPESSY.

Lieutenant-Colonel W. G. MACPHERSON, R.A.M.C., communicated a note on

The Diagnosis Tallies of Different Armies.

The diagnosis tallies in use in the different armies indicate by means of different colours whether a wounded man is slightly wounded or seriously wounded, or whether he is in a condition suitable for transport or in a condition unsuitable for transport. In some cases, such as in the tallies used in Germany, Portugal, and the United States of America, the difference in colours also indicates whether a wounded man can walk. Unfortunately, there has been no mutual understanding amongst different nations as to the use of these colours, with the result that the colour indicating a slight wound in one army indicates a severe wound in another. This constitutes a danger to the wounded who may be left on the field and come under the care of the medical officers or men of another belligerent, for they may handle with less care a man who has had a tally affixed with a colour indicating to them a slight wound, but to him a serious wound. It is therefore desirable that the official delegates of the various armies present at this meeting should come to some agreement regarding the adoption of a uniform diagnosis tally. At present Portugal and the United States of America are the only countries with an exactly similar diagnosis tally.

SECTION XXI.—MARITIME AND TROPICAL MEDICINE.

President, M. C. DE CHYZER.

Acting Managing Secretary, M. A. DE FAY.

The first meeting, under the presidency of Herr DE CHYZER, Councillor of the Ministry of the Interior, was held on Monday morning, August 30th. After a brief address by the President, in which the importance of the study of infectious diseases was dwelt upon and sympathetic reference was made to the loss it has sustained by the deaths of Dr. Schaudinn and others, the section proceeded to elect the following honorary presidents: Professor Laveran (Paris), Dr. Kitasato (Japan), Dr. Köpké (Portugal), Dr. Galli-Valerio (Lausanne), and Dr. Kaller (Austria). Herr Chyzer then asked Professor Laveran to take his place in the chair for the morning's meeting.

A communication by Professor PERNET (Paris), entitled

"*Note sur le Tokelau et son Traitement*,"

was then read (in summary, by Dr. BERTRAND, in the absence of the author). His conclusions are: That the disease is curable by antiparasitic applications, as, even at its worst, it does not modify the dermis to any very great depth; that it is easily diagnosed from other skin diseases resembling it, such as pityriasis, ichthyosis, herpes circinata, &c.; and that it is destined to disappear from the Pacific Islands in time, thanks to the united action of colonial authorities, working with the aid and willing coöperation of the natives and under specialised medical advice. No discussion followed.

A long paper by Dr. RANGÉ, medical inspector with the French colonial troops, entitled

"*De l'Assistance Médicale pour les Indigènes dans les Colonies Françaises*,"

was then considered. This paper was already in print and occupied over 100 pages of the proceedings of the Congress. It set forth in great detail the medical organisation in each of the principal French colonies, especially those of Indo-China, West Africa, and Madagascar. Only a brief summary was read to the meeting, and this was not followed by a discussion.

Dr. DEBAYLE (Nicaragua) read a paper on

Intestinal Parasites in the Tropics.

He dwelt on the extreme frequency of diseases due to such parasites in tropical countries, particularly the ankylostoma, the ascaris lumbricoides, the trichocephalus dispar (the serious effects of which are often not sufficiently recognised), and the various forms of tænia. The symptoms are protean in their character; they result from a severe toxæmia. The hæmolytic effect of the toxins was specially dwelt upon. There is, the author said, real need for energetic measures in destroying these parasites; the people must be educated; an active propaganda is essential. A brief account of the forms of treatment adopted ended the communication. In the discussion that followed stress was laid on the active measures taken to deal with these diseases in Egypt, Italy, and elsewhere, and the good results that have followed.

Professor AGRAMONTE (Havana) read a paper on

Yellow Fever Prophylaxis in Cuba.

The author dealt mainly with the conditions peculiar to Cuba, which differentiate the measures taken there from those taken elsewhere. The topography and geographical position of the island and the nature of population render it, if not less liable to invasion by the disease, at least more favourable to its extinction than some other regions. If political conditions remain unaltered there will probably be no more epidemics of yellow fever in the island. In 1901 the infection completely disappeared, as the result of a campaign based on the doctrine of mosquito transmission, and carried out by Major Gorgas. Between February, 1901, and October, 1905, only a few cases of the disease, imported from Mexico or South America, occurred and none of these gave rise to secondary cases. In May, 1902, the Republic was inaugurated; the flow of immigration, especially from Spain, increased tenfold, and the new Central Railroad brought one end of the island into rapid communication with the other. New towns were established and trade and industrial enterprise increased proportionally. Three unfavourable results followed: an unwarranted sense of security was brought about, the non-immune population was increased, and the stegomyia mosquito was carried from the coast to the interior, where it did not exist before. Consequently, the yellow fever epidemic of New Orleans in 1905 crept into Cuba in October of that year, and from that time until Dec. 24th, 1908, 405 cases of the disease developed in the island. None have occurred since. The measures employed to deal with this outbreak were indirect and direct. Until August, 1907, there were two sanitary departments in Cuba, a maritime and terrestrial, and a large number of separate local health boards in the different municipalities. In 1907 the two sanitary departments were united into one and the local health boards abolished, one local health officer being appointed in their place in each municipality. The results were most satisfactory, and the conflict of authorities was thus removed. Quarantine appears to be of small value in the prevention of yellow fever, if the certificates of immunity presented by passengers be relied on. In 1905 a close quarantine was in force against the Southern States of America, and yet the infection, which was waning in New Orleans, entered the island. An "absolutely closed quarantine" might be effective, but it would cause great inconvenience to commerce and to travellers. The isolation and complete defence against mosquitoes of all imported cases, on the other hand, are quite effective, as shown by the occurrence of more than 30 imported cases from Mexico and the United States, without any secondary cases developing. These measures are applied even before the exact diagnosis is made so as to avoid delay. The patients were all isolated in the Las Animas Hospital, where the most minute precautions are taken to prevent the spread of infection by mosquitoes. Every hospital in the island is provided with wards for such cases. A system of registration of non-immunes has also been most useful. Some 60,000 men are registered as members of various Spanish clubs or societies in Havana, and for these there are five specially equipped hospitals. These 60,000 men are under special sanitary control, and any suspicious illness among them is at once dealt with. As the total number of white foreigners in Havana is 74,000, it will be seen how valuable a measure this is. Similar societies exist in other towns. Spanish immigrants rarely fail to inscribe their names with one or other society. A large staff of sanitary commissioners has been formed, and these investigate any suspicious case in any part of the island. Among the direct measures in the control of yellow fever one of the most important has been a house-to-house inspection of the whole population carried out by trained men every ten days.

The removal of breeding-places for mosquitoes, the pouring of petroleum into pools and other collections of water, and the provision of metallic gauze coverings to water-tanks and barrels have all been extensively carried out. Another very useful measure has been the free distribution of fish to be put into such barrels and tanks in order to destroy the larvæ. Fresh supplies of fish are furnished as required. The destruction of mosquitoes by fumigation or other means is also extensively applied. A detailed description was given of the methods of fumigation employed. Sulphurous acid gas was exclusively employed. The paper ended with a comparison (however "odious" such may be) with the measures applied elsewhere. Mexico and the United States, the author affirmed, depend almost exclusively upon quarantine measures to prevent the introduction of yellow fever; the stegomyia abounds, and the non-immune population is not systematically dealt with; while "of Central American sanitary methods the less said the better." The paper was illustrated with maps and photographs.

In the discussion that followed, Dr. GALLI-VALERIO dwelt on the necessity of destroying mosquitoes anywhere and everywhere. The fatalism of the public must be combated.—Professor LAVERAN said that the rôle of the mosquito in the spread of disease is now definitely established among scientific men; it remains to educate the public. The former have definite ocular evidence; they look down a microscope and see with their own eyes the proof of the mosquito doctrine, while the public have no such advantages and are slow to learn. Even children in schools should be taught this subject.—Dr. BELLELI (Port Said) stated that the stegomyia abounds there, and that it might some day prove a danger if yellow fever were introduced. He highly eulogised the recent campaign conducted by Mr. E. H. Ross in Port Said, as a result of which mosquitoes were almost exterminated there, whereas formerly they rendered life almost unbearable.

Dr. GALLI-VALERIO (Lausanne) read a paper entitled

The Etiology and Prophylaxis of Bacillary Dysentery.

He dwelt on the fact that the disease is caused not by one bacillus but by many bacilli belonging to the Shiga group of such organisms. The terms "para-dysentery" and "pseudo-dysentery" should not be used, as they tend to cause neglect of measures of prophylaxis. The disease, in its varieties, is spread mainly: (1) by personal contagion either from sick persons or from healthy "carriers" of the bacilli, and either directly or through fomites; (2) by water, which plays a most important rôle in the spread of the disease; (3) by means of flies, as proved by experiments; (4) by milk, which may be infected by flies or by the addition of infected water, or the washing of vessels with such water; (5) by vegetables, for similar reasons; and (6) by the soil and dust. A large number of references to recent literature were quoted in connexion with each of these methods of spread of dysentery. The main prophylactic measures recommended were grouped under the following headings: (1) as rapid as possible a diagnosis of the first cases; (2) compulsory notification of all cases; (3) strict isolation of the sick; and (4) disinfection of the excreta, linen, &c., and of the room occupied by the sick. Great stress was laid on the necessity of immediate and compulsory notification which at present is in force in few countries. Thorough sanitation is also, of course, of prime necessity; and finally, the public must be actively educated in the need of strict measures. Vaccination has hitherto given uncertain results.

In the discussion which followed Professor LAVERAN stated that dysentery is by no means confined to hot countries. It is endemic in parts of Brittany and in places near Paris. He had never seen an instance of direct transmission of the disease from bed to bed in a hospital; water appeared to be the most frequent means of diffusion of the infection. He strongly supported the reader of the paper in his advocacy of compulsory notification. Dr. GABBI of Rome, Dr. BERTRAND of the French Colonial Service, Dr. DEBAYLE of Nicaragua, and others took part in the discussion, at the close of which the following *vœu* was formulated:—

That it is most desirable that dysentery, in any of its forms, should be added to the list of compulsorily notifiable diseases in all countries, as it is at present in some, since it constitutes one of the grave epidemics that may appear in any country.

This was adopted unanimously.

In the afternoon of the same day Dr. ANDERS of Philadelphia read a paper by himself and Dr. RODMAN of the same town on

Appendicostomy in the Treatment of Amœbic Dysentery with Statistics.

The author's main conclusions were the following: (1) amœbic dysentery does not always yield to ordinary methods of treatment, including lavage of the great intestine; (2) the explanation of this is usually either that the lesions are too high up in the bowel to be affected by lavage, or that the disease is very advanced; and (3) in such cases the best thing to do is to perform an appendicostomy. The operation is performed in two stages: (*a*) the meso-appendix is stitched to the parietal peritoneum in order to obviate subsequent obstruction or gangrene of the appendix; and (*b*) the appendix is opened and irrigation at once begun. The solution used is one of quinine, in a 1 in 5000 solution; the strength is gradually increased until 1 in 1000 solution is reached. When the disease is cured the closure of the fistula is extremely easy and rapid; indeed, it is more difficult to keep it open for the required period than to obtain its closure.

On Tuesday morning Dr. ARMAND RUFFER, President of the Maritime, Sanitary, and Quarantine Board of Alexandria, made a communication upon

Epidemics of Dysentery in the Mussulman Pilgrimage.

He stated that at the Egyptian lazaret of El Tor some 400 to 600 cases of dysentery are treated each year among the returning pilgrims, and of these some 150 die. As the pilgrims at Tor represent only a portion of the whole number, it is evident that the deaths from dysentery in the Hedjaz itself must be enormous—perhaps from 3000 to 15,000 per annum. It is unfortunate that the same attention has not been paid to this disease by the European Powers as to plague or cholera or yellow fever. The International Sanitary Conventions deal only with the latter diseases. The fact that dysentery existed so widely in the Moslem Haj had only been recognised within comparatively recent years. There were two main forms of dysentery, the amœbic and the bacillary, and not infrequently a mixed infection was met with. From observations made at Tor conjointly with Dr. Zirolia he had found that the majority of the patients gave no serum reaction with the Shiga-Kruse bacillus; in fact, only 2 per cent. of the whole gave such reaction. In some of the cases the Flexner organism was present, in others the pseudo-dysenteric bacilli, A and D, of Kruse, were found. Each of these organisms was absolutely distinct and gave reactions specific to itself but not to the others. But in a large number of patients another bacillus was found, to which the name of the Tor bacillus, No. 1, had been provisionally given. The addition of the words "No. 1" had been necessary because further observations showed that probably at least three different bacilli were being dealt with. All these organisms presented the general characteristics of the pseudo-dysenteric bacillus D of Kruse, but their serum reaction was entirely different; they agglutinated neither that nor any other of the above-named bacilli. Briefly, the author thought that the forms of dysentery met with in the Moslem Haj were due to at least nine different micro-organisms, and that there were at least six bacilli more or less clearly and distinctly differentiated. With regard to the question of serum treatment in cases due to the Shiga-Kruse bacillus most excellent results had been obtained; indeed, in few other diseases were the results of serum treatment so brilliant. But in the Tor cases there was practically no effect, which was further evidence that they were due to some other micro-organism. In addition to the causes of dysentery above enumerated mention was also made of the bilharzia and of the balantidium coli, in regard to the latter of which there existed considerable doubt.

(FROM OUR SPECIAL MEDICAL CORRESPONDENT.)

The Formation of an International Committee for Medical Extension (i.e., Post-graduate) Courses.

AN interesting address was delivered on Sunday afternoon (August 29th) by Dr. R. KUTNER, director of the Post-Graduate Institution in Berlin, on the subject of post-graduate courses. After a detailed account of the work done at the institution just named and a warm appeal for international action in this matter the paper ended with the following conclusions: 1. A medical education is not to be considered finished at the end of the university

course. The constant progress of science requires of the physician an equally constant effort in the direction of further study. 2. Physicians must be given opportunities to supplement their knowledge without great material sacrifice on their part. 3. Therefore the arrangements which are to serve this purpose must be: (*a*) gratuitous (for the physicians of the country); (*b*) in the home city of the physician or near the same; and (*c*) able to be used by the physician at the time most convenient to him. 4. There should be created in the larger cities scientific centres—educational institutions in connexion with which the local hospitals can be utilised, and in which physicians capable of teaching may act as lecturers. 5. The lectures given should embrace all theoretical and clinical subjects; also cognate domains of modern medical science (social medicine, &c.). 6. While at present lectures (with or without demonstrations) and courses (with demonstrations or practical work), given in scientific institutions and hospitals, must be accepted as the best form of continued study, it should be our aim in future to create as many institutions as possible serving exclusively the purposes of post-graduate medical education.

Professor Kutner's paper was followed on the next day by the constitution of a permanent international committee, with the aim of the practical advancement of the objects which he advocates. As the result of international correspondence which has been carried on for some little time prior to the Congress some 15 countries interested in this question had named delegates to attend the Congress and discuss the matter, which obviously has important international bearings and which is not one to be settled in a day. These delegates met at noon on Monday under the presidency of Professor Waldeyer of Berlin, and after some preliminary discussion the International Committee for Medical Extension—i.e., Post-Graduate—Courses was definitely constituted as follows:—

America.—MM. Miller (New York) and Kast.

Belgium.—MM. Firket, Leopold Déjace, and Casse (all of Liège).

Bulgaria.—MM. Ivanoff and Kiroff (both of Sofia), and Georgieff (Rustchuk).

Austria.—MM. Eiselsberg, von Haberler, Thenen, and Wagner von Fauregg.

Hungary.—MM. von Grösz, Müller, and Baron von Koranyi (all of Budapest).

Denmark.—MM. Rördam, Faber, and Rövsing (all of Copenhagen).

France.—MM. Landouzy and Lucas-Championnière (Paris), and Tripier (Lyons).

Great Britain.—Sir Havelock Charles, Sir B. Franklin, and Fleet-Surgeon Pickthorn, R.N.

Greece.—MM. Savvas, Kalliontzis, and Meningas (all of Athens).

Japan.—MM. Yamada and Sato (Tokio).

Norway.—MM. Johanessen, Athermann, and Holmboe.

Russia.—M. Rein.

Sweden.—MM. Wawrinski (Stockholm), Hammar and Petren (both of Upsala).

Switzerland.—MM. Kocher (Berne), Bourget (Lausanne), and Fevrer (St. Gallen).

The majority of these gentlemen were present at the inaugural meeting and all have been definitely appointed as delegates to the committee by their respective Governments. It was decided that the work be carried on by means of an administrative committee and a board of directors. The former will consist of a president and five members (the president having a casting vote). The latter will consist of one member from each of the countries adhering to the scheme. The administrative committee was elected forthwith as follows:—President: Professor Waldeyer (Berlin); Members: MM. Landouzy (France), Pavy (London), von Grösz (Hungary), Kutner (Germany), and Rein (Russia). The organisation and general idea of the committee are based on the similar International Committee for Tuberculosis. Strictly speaking, the matter did not form part of the programme of the Congress and was only indirectly connected with it. But the ground had been carefully prepared beforehand and advantage was taken of the occasion of the Congress to bring it to a head. The movement had its origin in Germany, and the infant institution may be said to owe its existence mainly to the efforts of Professor Kutner of Berlin, who has successfully guided it through the first stages of its career. Should it reach maturity it seems destined to be of real utility, and for this reason it may be worth while to describe its organisation in detail. The statutes, as finally accepted, may be summarised as follows:—

Article 1.—States that the institution will bear the title of "*Comité International pour l'Enseignement Médical Complémentaire.*"

Article 2.—Defines its object. This is, briefly, coöperation in post-graduate education. This may be furthered by mutual information as to the organisation of such education in different countries; exchange of eminent teachers, particularly where important innovations are concerned; conferences in connexion with the International Medical Congresses; statistical work; visits to foreign countries for medical study; and so forth.

Article 3.—The *Comité* consists of ordinary, extraordinary, and honorary members.

Article 4.—Ordinary members are elected by the central associations for post-graduate courses in each country. Where such do not exist the Government or medical societies will name them. Each country will send three members; if its population exceeds 10,000,000 it will send one additional member for each additional 5,000,000 of inhabitants, but in no case may it send more than five.

Article 5.—As extraordinary members (without vote) may be named persons who have distinguished themselves in their efforts on behalf of post-graduate training, and "whom it is intended to bring into permanent connexion with the International Committee."

Article 6.—As honorary members may be appointed (by unanimous vote of the ordinary members) "persons who have rendered services of permanent value in the cause of medical post-graduate training." They have the same rights as ordinary members. [The distinction between the qualifications for "extraordinary" and for "honorary" membership is, it would seem, not very clear.]

Article 7.—The business of the *Comité* is conducted by (1) *La Commission Administrative*; and (2) *La Direction.*

Article 8.—*La Commission Administrative* is composed of a President and of five members [raised from three, as originally drafted]. The President will have a casting vote. The President and other members are elected by the *Direction*, at its ordinary meeting, for the three following years, and are eligible for re-election. The *Commission* has its seat (for the present) in Berlin (it may, later on, sit in other capitals). [The words in parentheses were added, after some discussion, in the course of Monday's meeting.]

Article 9.—All ordinary business that is not transacted by the President devolves on the Secretary-General, who is elected by the *Commission Administrative* for three years.

Article 10.—The *Commission Administrative* is authorised to appoint assistants ("*adjoints*") to aid the general secretary from foreign countries adhering to the scheme, "sur avis conforme de la délégation de leurs pays." [The last words were added in the course of the discussion.]

Article 11.—*La Direction* is composed of one ordinary member from each of the adhering countries [as originally drafted this read: "of 10 ordinary members"], who, in case of unavoidable absence, may name substitutes. Honorary members have the right to speak and vote at all meetings.

Article 12.—Ordinary meetings of the *Direction* will be held at the same time as the general meetings of the *Comité*. Extraordinary meetings may be convened whenever the *Commission Administrative* thinks necessary.

Article 13.—The *Direction* will decide on the measures to be taken to further the aims of the *Comité*; it will receive the annual reports of the *Commission Administrative*; it will fix the budget; and will hold the elections with which it is entrusted (under Article 4) at each ordinary meeting.

Article 14.—The *Comité* will meet every three years, and, as far as possible, at the same time as the International Medical Congresses. A report of the work done in the interval will then be read. It will elect the extraordinary and honorary members (see Arts. 5 and 6), and, if necessary, may modify the present statutes. Such modifications must be proposed by the *Direction* and require the approval of a two-thirds majority of the members present. Motions made by any of the adhering countries must be signed by all the delegates of that country, and must reach the President of the *Commission Administrative* at least eight weeks before the general meeting.

Article 15.—Invitations to the meetings will be sent in the name of the President of the *Commission Administrative.*

Article 16.—The expenses of the committee will be covered by fixed contributions ("*cotisations*") and donations ("*subventions extraordinaires*").

This last article, as originally drafted, contained a clause to the effect that each "national central association" will contribute, "*à titre de cotisation*," a fixed sum of 50 marks (62½ francs) per annum for each ordinary member. But this clause was suppressed, and it was decided to leave the question of finance for further discussion between the Governments interested.

It will be seen from the above that the new body is already very definitely organised. Fifteen countries have adhered to the scheme. To sum up the above statutes it may be stated that the new body, which we may call the International Post-Graduate Committee, will be of considerable size. Taking as a basis the figure 15 as the number of adhering countries (others may join later), the *Comité* will consist of a minimum of 45 and a possible maximum of 75 members; it will meet at the time of the International Congresses. The *Direction* is a smaller body, or subcommittee, consisting at present of 15 members; it will meet at the same time as the whole committee. During the intervals a still smaller body—the *Commission Administrative*—of six members only, will conduct the affairs of the committee; for the present it will sit in Berlin, which

thus becomes the more or less permanent centre of the new body.

Some additional points were also settled in the course of Monday's meeting. Thus it was stated that the President of the whole *Comité* will always be the President of the *Commission Administrative*. Any country that desires to do so may adhere to the scheme and send delegates. The question of the formation of "central associations for post-graduate training" (see Article 4) in countries where such do not exist was also discussed. The idea is to create a *bureau de renseignements* in each country, which would be in communication with the central bureau in Berlin. The French delegates were of opinion that such centralisation was unnecessary, and that general inter-communication between each and all of the adhering countries should be aimed at without reference to any central bureau. It is obvious that in a brief two hours' discussion it was impossible to decide definitely upon a large number of points raised. These will form the object of continued correspondence between the foreign officers of the different countries interested in the matter, and no doubt, as time goes on, the new *Comité* will undergo several modifications in points of detail. For the present it is definitely launched into the world, and its future career will be watched with interest.

In the above summary it has appeared preferable to use the French terms for the *Commission Administrative* and for the *Direction* (and even for the *Comité* as a whole). In the English translation of the draft statutes the former is called the "board of management," the latter the "board of directors," both of which terms are rather suggestive of a commercial undertaking than of a scientific body. With some other trifling exceptions, however, the English, in this as in most of the other publications of the Congress, is excellent, and affords a refreshing contrast to that so frequently met with in international documents.

ASYLUM REPORTS.

Carmarthen Joint Counties Lunatic Asylum.—During 1908 the total number of patients under the care of Dr. J. Richards at this asylum was 820, the average number daily resident being 667. There were admitted 138 patients, of whom 67 were males and 71 were females. The discharges numbered 88, and of these 30 were discharged recovered, giving a proportion per cent. of recoveries to admissions of 23·43. The deaths numbered 60, being a proportion per cent. of deaths to the average number resident of 8·99. The average age at death was 55 years for males and 59 for females. It appears that the overcrowding of the male wards has been temporarily relieved by the removal of the patients chargeable to Cardiff, but that even so still further accommodation will shortly be needed. It appears from the comments of the Commissioners in Lunacy that none of the larger matters referred to in previous reports have been dealt with. Beyond the preparation of preliminary plans and estimates no provision has been made for the new sewerage system nor for the reconstruction of the laundry, the way being apparently blocked by questions in dispute between the various local authorities concerned. The Commissioners are of opinion that as there is no prospect of an early settlement of these matters it is desirable that the board should approach the Secretary of State with a view to his taking definite action.

West Sussex County Lunatic Asylum, Chichester.—At this asylum Mr. H. A. Kidd reports that the number of discharges during the year 1908 has exactly balanced the number of admissions, so that the number on the books at the end of the year remains as at the beginning—779. Of the admissions, 62 per cent. were of a chronic nature, and only about 17 per cent. were favourable for recovery. The recovery rate on those cases which were sent in within six months of the onset of the symptoms was 80 per cent., the recovery rate calculated upon the total admissions being 21·87 per cent. This forms another striking illustration of the importance of early treatment. There were 68 deaths, giving a death-rate calculated on the proportion per cent. of deaths to the total number under treatment of 7·15 per cent. There appears to have been a large increase in the number of cases admitted from West Sussex, and the total number of patients chargeable to unions within the county has increased by no less than 39.

Staffordshire County Lunatic Asylum, Stafford.—At this asylum, which is under the medical charge of Mr. J. W. S. Christie, the total number under treatment during 1908 was 1130, there being an average of the daily number resident of 892. The admissions numbered 219. The discharges were 132 and the percentage of recoveries to admissions was 41·95, being much above the usual figure. There were 117 deaths, being a percentage of 13 of the daily average number resident. The scheme prepared by the county surveyor for relaying the whole of the soft-water drains and providing additional storage tanks has, owing to its cost, been abandoned.

Staffordshire County Lunatic Asylum, Burntwood.—The total number of patients under treatment for the year 1908 was 1190, the average number resident being 884. The proportion per cent. of recoveries to admissions was 34·76 and the proportion per cent. of deaths to the average number daily resident was 16·85 per cent. Dr. J. B. Spence, the medical superintendent, points out that the discharge of patients who have not fully recovered is often a source of difference of opinion with their relations who press by all fair and unfair means for the discharge of their friends directly the acute mental symptoms have passed off and just at the moment when treatment would give the invalid a better chance of permanent recovery. Dr. Spence quotes the comments of a coroner in an enquiry into the death of a man who had been removed from an asylum only a few days before the act was committed which was the occasion of the inquest: "It was a pity the friends of patients in asylums did not recognise the fact that those who are in responsible charge of them were anxious to send out as many as it was safe to allow into the world again, but so long as sentiment was permitted to control the discharge of convalescent lunatics before the proper time had arrived for doing so, so long would casualties such as that under consideration be likely to occur." With this opinion Dr. Spence heartily concurs.

Staffordshire County Lunatic Asylum, Cheddleton.—During 1908 1029 patients were under treatment. The total number of admissions was 320. The number of discharges was 96, and of these 69 were discharged recovered. The deaths numbered 90. New female blocks were opened in April and new male blocks in August, and immediate advantage was taken of these blocks to reduce the overcrowding which had existed. The total accommodation of the enlarged asylum is for 519 of each sex. Dr. W. F. Menzies, the medical superintendent, reports that the year was one of worse trade than was 1907, and he relates certain interesting consequences. The number of cases in which alcohol is a factor falls, and more congenital and epileptic cases are sent from workhouses, being crowded out by ordinary paupers; but the worry produced by slackness of trade and privation is a less important factor in producing insanity in married women than is the drunken husband, and alcohol is such an important factor in working-class insanity that the total admission-rate is lowered despite bad times.

Wonford House Hospital for the Insane.—During 1908 there were received at this institution, which is near Exeter, 23 certified patients and six voluntary boarders, the total number under treatment amounting to 159. There were discharged 22 patients, of whom three had recovered, eight had much improved, and seven had been transferred to other institutions. There were five deaths during the year. Dr. P. Maury Deas has, after 25 years' service as medical superintendent, resigned his office, and the committee of management has recorded its sincere appreciation of the debt which the institution and the patients who have been under his care owe to him. Dr. Deas gives a few statistics of the work which has gone on at the hospital during his term of office. There have been 677 patients under treatment, and of these 255 have been discharged as recovered, 168 as improved, while there have been 162 deaths. The death-rate, calculated on the average number resident, has amounted to 5 per cent., being 7 per cent. for the males and 3 per cent. for the females. Dr. Deas also enumerates a large number of striking improvements which have been effected during his tenure of office.

FATAL BELLADONNA POISONING.—Two boys, aged respectively 11 and 12 years, have died in the Watts Naval Training School at Elmham, Norfolk, as a result of eating wild berries, which are stated to have been picked from nightshade and bryony plants in the vicinity of the school.

THE LANCET.

LONDON: SATURDAY, SEPTEMBER 11, 1909.

The Life and Doctrine of Semmelweis.

IT is fitting now that the eyes of the medical world are turned upon Budapest that fresh honour should be paid to the memory of one of her greatest sons, IGNAZ PHILLIP SEMMELWEIS, who was born in the Hungarian capital in 1818. The opportunity occurs in a careful and interesting account of SEMMELWEIS's life-work, which has been published recently by Sir WILLIAM J. SINCLAIR.[1] In spite of certain other claims, TIBERIUS VON GYÖRY, in his criticism of the biography by VON WALDHEIM, has made it quite clear that the man who first proclaimed the etiological principles underlying child-bed fever was a true Hungarian, although it was in Vienna that he arrived at and announced his discovery. It was in 1840, a few years before SEMMELWEIS was appointed first assistant in the Obstetric Clinique, that the Lying-in Hospital in Vienna was enlarged and divided into two parts, one reserved for midwives and the other for medical students. This seemingly unimportant fact ultimately became one of the chief factors in the proof of the doctrine of SEMMELWEIS. At this time the theories as to the etiology of puerperal fever were exceedingly numerous and of the most varied description. According to the most generally accepted doctrines there were two main factors at work, one internal, depending upon the condition of the organism, and the other external, acting from without. Among the latter were enumerated suppression of the lochia, milk fever, an unknown something producing a specific primary change in the blood, a cosmic atmospheric telluric influence, and a contagium of unknown character, which was largely believed in in this country. Happily here it was considered that this contagium could be destroyed, and this produced a remarkably effective prophylaxis. Another view was that the peculiar local anatomical conditions of the sexual organs brought about by pregnancy and parturition produced a *locus minoris resistentiæ*. Among all this confusion of thought it was probable that SEMMELWEIS began his duties as assistant in the Obstetric Clinique of Vienna as a "milk fever" epidemicist under the influence of the teaching of his superior KLEIN. But in the light of his rapidly increasing experience it was not to be expected that an intelligence such as that of SEMMELWEIS, with a complete want of reverence for the *verba magistri* and with the capacity for going straight to the heart and relevant parts of a question, would regard with complete indifference the frightful mortality from child-bed fever which prevailed in the lying-in hospital at that time. In the first division attended by students the mortality was 9·9 per cent., and three times as great as in the second division attended by midwives. There were no differences in the surroundings or the treatment of the patients which could explain this striking difference in the dangers of the two divisions. It was impossible to imagine that any of the causes so readily accepted by the majority of obstetricians could account for the mortality or its variations. Why was it that the patients in the first division who had had a tedious first stage, and especially the primiparæ, suffered so much from puerperal fever, whereas no such predisposition to the disease was perceptible among those in the second division? Yet it seemed that not only were the women attended by midwives much less likely to acquire puerperal fever, but that the condition was of very rare occurrence among those women who were admitted into the hospital after labour was completed and among those confined prematurely. In 1846 the mortality was terrible, amounting as it did to 443 deaths among 3000 patients, or 14·5 per cent. A commission appointed by the authorities to consider this appalling mortality reported that it seemed to be due "to epidemic causes with unusual characters." In a state of depression and despondency caused by the sight of the fearful mortality all around him, for which in vain he sought a cause, we find SEMMELWEIS writing: "Everywhere questions arose; everything remained without explanation; all was doubt and difficulty. Only the great number of the dead was an undoubted reality."

It was not until 1847 that the death of his friend KOLLETSCHKA from acute septic poisoning gave him the clue to the enigma. "In the excited condition in which I then was," says SEMMELWEIS, "it rushed into my mind with irresistible clearness that the disease from which KOLLETSCHKA had died was identical with that from which I had seen so many hundreds of puerperal women die. Day and night the vision of KOLLETSCHKA'S malady haunted me, and with ever-increasing conviction I recognised the identity of the disease from which he died with the malady I had observed to carry off so many lying-in women. The cause of the disease in the case of KOLLETSCHKA was cadaveric material carried into the vascular system. Did, then, the individuals whom I had seen die from an identical disease also have cadaveric matter carried into the vascular system? To this question I must answer, Yes." And so SEMMELWEIS found the solution of the problem. It was the fingers of the students and of the teachers themselves who passed straight from the post-mortem room to the lying-in wards that carried the infection, and thus was explained at once the difference in the mortality of the two divisions.

But events soon occurred which showed that it was not only cadaveric particles which could be sources of infection. The infection of a number of women from a patient suffering

[1] Semmelweis: His Life and His Doctrine. By Sir William J. Sinclair, M.A., M.D., Professor of Obstetrics and Gynæcology in the University of Manchester. Manchester: At the University Press. 1909. Pp. 369. Price 7s. 6d.

from carcinoma of the uterus and from one with a suppurating knee-joint showed that it might be derived from any decomposing animal organic matter. Now, in the autumn of 1847 was the discovery of SEMMELWEIS complete and the doctrine firmly established in his own mind. It amounted to this, that puerperal fever was caused by a decomposed animal organic matter conveyed by contact to the pregnant, parturient, or puerperal woman whether from the cadaver or from a living person affected with a disease which produced a decomposed animal organic matter. For SEMMELWEIS this was the eternally true doctrine of puerperal fever, as Sir WILLIAM SINCLAIR says, and utterly true it has remained to the present day. But it was a long time before the truth was to prevail, and from this time on begins the tragic and melancholy history of the hatred and jealousy among many of his contemporaries which SEMMELWEIS and his doctrine aroused. It is now matter of common knowledge that by the observation of cleanliness and by the use of chlorinated lime as an antiseptic SEMMELWEIS was able very markedly to diminish the death-rate from puerperal fever in his wards. That he was not able to eliminate it altogether is not surprising when we remember the disadvantages under which he laboured. The lying-in wards were insanitary, overcrowded, and unprovided with even a sufficiency of linen. Ignorance and prejudice were rampant among the students and midwives, and the open hostility and jealousy of his senior, KLEIN, added to the difficulties. With indomitable courage SEMMELWEIS carried on the fight. Secure in an unshakeable belief in his own doctrine, convinced that in the end the truth must and would prevail, he fought with a degree of courage and a tenacity which prove him to have been one of the noblest characters in the history of medicine. The story of the reception the doctrine met with is humiliating and pathetic, and it loses nothing of its pathos in the graphic account of Sir WILLIAM SINCLAIR. It is true that by some obstetricians of note, such as TILANUS of Amsterdam and MICHAELIS of Kiel, it met with a sympathetic and ready acceptance. But it was far otherwise with the majority of obstetric teachers. It is difficult at the present day to understand the petty jealousy and animosity which allowed men of note in their own profession wilfully, as it only too often appears, to reject the teaching of SEMMELWEIS in view of the brilliant results obtained by him, and to continue in the old path of ignorance and indifference. Little wonder is it that in later years SEMMELWEIS lost patience, as he showed so strongly in the open letter to SCANZONI, always one of his most bitter and prejudiced opponents. When we remember that among the disbelievers were such men as CARL BRAUN, VEIT, KIRVISCH, BREISKY, HECKER, ZIPFEL, and even for many years VON WINCKEL and VIRCHOW, it is little to be wondered at that he lost both his patience and his temper. It may be, as Sir WILLIAM SINCLAIR maintains, that he was largely to blame himself. For many years he kept silence, believing that the doctrine would be accepted on the faith of his practice and the word of his friends, and meanwhile his enemies were not idle. It was not until 1860 that he published his *magnum opus* on "The Ætiology of Puerperal Fever," one of the most important works ever published in medical literature. To use a much abused expression, this work was "epoch-making," but unhappily it attracted but little attention and met with much hostile criticism.

It is interesting to note, and an honourable thing to recall, that the doctrine of SEMMELWEIS was accepted with more cordiality in Russia than in almost any other country. The history of its reception in this country is not one that does much credit to the British school of obstetricians. It was first proclaimed by the late Dr. ROUTH, who had been to Vienna and followed SEMMELWEIS'S practice. Communicated by letter to SIMPSON by one of SEMMELWEIS'S friends, it elicited a reply from that great clinician which showed that he did not clearly appreciate the difference between the theory of contagion, at that time widely held in Great Britain, and the doctrine of SEMMELWEIS. However, to his credit be it noted, in after years he made ample reparation, and it was largely owing to the teaching and example of the Edinburgh school that the doctrine so quickly found acceptance in this country. Unfortunately, later the teaching lost ground, and the chaotic state of opinion in England was well illustrated by the discussion on the subject which took place in the year 1875 at the Obstetrical Society of London, fifteen years after the publication of SEMMELWEIS'S great work. Within a few years of the appearance of his book SEMMELWEIS gave up any further attempts to take part in the controversy about his doctrine and devoted his attention to gynæcology. Apparently he was the first operator to perform ovariotomy in Hungary. He was, however, not destined to live much longer, and, unhinged by the trials and sorrows of his arduous life, his mind gave way, and in July, 1865, he was committed to an asylum. Immediately after his admission a septic wound of the right hand was discovered, and, despite all care, he died, like his friend KOLLETSCHKA, from the disease to the prevention of which the whole of his life had been devoted. It is impossible to read this book by Sir WILLIAM SINCLAIR—a work which we commend warmly to our readers' attention—without being overwhelmed with a deep feeling of sympathy for the sorrow which finds expression in the pathetic Nachwort which SEMMELWEIS wrote to the "Ætiologie": "When I with my present convictions look back upon the past, I can only dispel the sadness which falls upon me by gazing into that happy future when within the lying-in hospitals, and also outside of them, throughout the whole world only cases of self-infection will occur." We may well conclude with the eloquent words of his biographer, BRUCK. "The great revolution of modern times in obstetrics as well as in surgery is the result of the one idea that, complete and clear, first arose in the mind of SEMMELWEIS, and was embodied in the practice of which he was the pioneer. When we with just satisfaction contemplate and enjoy the achievements which bring us nearer to Fortune's full fruition, every time must the name of SEMMELWEIS be uttered with grateful recognition." That the name is held in honour in his own city is shown by the institution of an annual banquet at which the Semmelweis Cup is emptied. One of our correspondents at the International Medical Congress mentions the ceremony this week, and we give an illustration of the cup in supplement of his account.

Physical Exercises for Children.

BY the courtesy of the Board of Education we have received an advance copy of the revised syllabus of Physical Exercises for Public Elementary Schools, for the book will not be on sale till nearly the end of September. The importance of a healthy mind in a healthy body has been recognised for ages; it was recognised, indeed, before JUVENAL wrote the much quoted words. Among many ancient peoples the necessity for exercises for the body as well as for the mind in the training of the young was fully appreciated, but most modern nations have been slow in instituting any regular instruction in physical exercise. That there was need for systematic teaching was clear, but it was thought, if any thought was devoted to the matter, that the natural tendency towards movement possessed by the young was amply sufficient. This restless activity of the child is seen also in mental processes, and one manifestation of it is the almost ceaseless flow of questions with which many children deluge their elders. The tendency of modern education is to repress this exuberance of mental activity, or so to direct it as to make it lose nearly all its spontaneity. This is certainly one of the chief evils of modern education; it is only too common to find that the child is taught many things, and of the many things which he learns by rote he knows really very little. The mind is not trained so as to increase its capabilities of work; it is taught to carry out certain stereotyped mental processes. All careful students of the tendencies of much latter-day tuition will agree that the dangers of this happening are neither imaginary nor small. And these evils of a misunderstanding of the methods of what is true education are prone to appear not only in the training of the mind but also in the training of the body, and it behoves all concerned in directing physical exercises to take the greatest care to prevent such an occurrence. Repression is not required, but intelligent supervision.

In the natural bodily activity of children there is an abundant material on which to work; for when a child is found who does not care to play there can be little doubt that either ill-health or some error of diet is present. Granted, then, that a healthy child will spontaneously take exercise to the full extent that is good for him, whence comes the need for any formal teaching in physical exercises? The answer is simple; the instruction is not intended to increase the sum-total of the exercise performed by the child, but so to arrange it that it will yield the best results, having regard to the several manners in which physical exercise benefits a child. The effects of active bodily movement are many. The circulation is stimulated, and in cool or cold weather a pleasant feeling of warmth is felt; the acceleration of the circulation promotes absorption and excretion; the general nutrition of the body is improved, especially the nutrition and power of the muscles, while a great increase occurs in the frequency and the depth of the breathing; and in addition to all these there is the increase in the power of the coördination of the muscles, so that movements become possible which were impossible until the muscles, or rather their nerve centres, had learned to work together. That this increase of coördination may occur is the true reason of the marvellous activity of the child—an activity to be seen equally well marked in the kitten, the puppy, and the lamb. The need for instruction comes not from the fear that the child will not take enough exercise, but it depends upon the fact that in any form of play only a portion of the muscles of the body are employed, and the excessive use of some muscles to the neglect of others will tend to produce unequal development and so to give rise to deformity. Judicious and systematic instruction in physical exercises will lead to the development of all the muscles, so that none will be neglected and none will be over-employed, and a regular and normal development of the body will follow.

In the devising of physical exercises for the young the problem is not identical with that of arranging exercises for the adult. In the fully grown, or almost fully grown, body the plasticity of the young has been lost, and this plasticity must always be borne in mind when the effects of exercises on children are considered, for it is comparatively easy in a child to modify the shape even of the bones by suitable movements. Judged by these criteria, the revised syllabus of the Education Department is seen to be satisfactory. The introductory sections on the physiology of physical training are judicious, though occasionally knowledge on the part of the public is assumed. For instance, in the paragraph which refers to fainting it might well have been mentioned that the resting which is recommended should be in a recumbent position. We are pleased to see that the angle of 60° is given for the ordinary standing position, for the angle of 90°, as originally advised by LING, was an unnatural and possibly a mischievous suggestion. We are glad that a suitable gymnastic costume for girls is described and illustrated, and that the advice is given that such a costume may be worn by girls during all their school work, for anything which saves time is valuable. In every word of the syllabus we recognise the care that has been taken, but there is a natural tendency in such a production to allow theory to overbalance experience. It is hardly more than a tendency here, but traces of it can be found. For instance, in the description of skipping it is laid down as an absolute rule that children in skipping should never be allowed to turn the rope forwards, because to do so tends "to constrict and narrow the chest." Without staying to inquire what is the difference between constricting and narrowing, we should like to ask for the evidence of any such result. Forward skipping may well alternate with backward skipping, and we will guarantee that no harmful results will follow.

In all education, both mental and physical, it must never be forgotten that the training is only a means to an end, the end being the improvement of the general condition of the scholar; too often is the true end forgotten and the mere means looked upon as the aim. The modern education of the mind of the child is continually failing in this direction, and the greatest care must be taken by all educational authorities, both great and small, that a similar failure does not follow in the training of the body. Children are not to be taught athletic tricks, and require little encouragement in aiming at athletic prowess. They are to be taught how to

play; to observe the rules of games and to obtain thus the admirable discipline of athletics; and to enjoy themselves much more intelligently and keenly, with commensurate improvement to mind and body, than they can now do in the existing disorderly conditions.

Prophylactic Inoculation Against Enteric Fever and Plague.

WITH the spread of knowledge respecting the prevention of disease there is a growing tendency, among the educated classes at least, to avail themselves of the means which science has suggested for imparting artificial immunity against certain infections. The family medical adviser may now, for instance, be asked as to the desirability in the case of persons proceeding to take up duties for the first time in the Far East of obtaining this protection against enteric fever and plague prior to their embarking on the journey. The European who proceeds to India or elsewhere in the East is to a large extent at the mercy of his native servants, whose filthy habits and uncleanly customs give rise to serious risk. He can himself exercise little or no control over the storage or preparation of the food which is brought to his table. Besides this there is the constant danger from infective dust, from flies acting as carriers of infection, and from other causes which bring the specific organism of enteric fever into his house and into association with his food and drink, and as to which no forethought on his part can prevent the possible danger. So that there is in this way continual exposure to chances of enteric fever infection from unknown sources which cannot be foreseen and guarded against. For this reason it is, in our opinion, very desirable that all persons proceeding to the Far East, and particularly those under 25 years of age going to India, should submit to antityphoid inoculation before they leave this country. Since this method for affording protection against enteric fever was first introduced by Sir ALMROTH WRIGHT in 1897, a considerable mass of evidence has been accumulating in its favour. A committee of experts appointed by the Army Council in 1904 has already, in an interim report after an exhaustive inquiry, reported strongly in favour of inoculation; and the Army Council has in consequence sanctioned its re-introduction into the British army as a voluntary measure. The final report of the committee of experts is, we believe, now in preparation and will doubtless supply a large amount of evidence in support of antityphoid inoculation, as foreshadowed by the interim report. Improved and modified methods of preparing the antityphoid vaccine have been introduced by Colonel Sir W. B. LEISHMAN, professor of pathology at the Army Medical College, and as a result the temporary discomfort which accompanies the "reaction" caused by the inoculation has been reduced to a minimum. The operation may now be regarded as a comparatively trivial affair, free from any recognisable danger. It may be mentioned that to secure efficient protection it is necessary that two separate inoculations of the vaccine should be made, with an interval of ten days between them. The duration of the protection conferred by efficient inoculation is said to be about two years, after which time, should special danger from enteric fever still be present in the locality where the European is residing, it will be advisable to submit to re-inoculation.

But with most people fear of plague is stronger than fear of enteric fever, though we hold that the danger from the latter disease is by far the greater of the two. It has to be remembered that the European as a rule is much less susceptible to plague infection than the native races, especially the Hindus, and that Europeans in India comparatively seldom contract the disease. Occasionally, however, medical men and nurses may fall ill of plague, but the medical men in these cases not infrequently become infected through post-mortem wounds and the nurses through their necessarily close contact with their patients, who may be suffering from virulent pneumonic or septicæmic plague before the condition has been fully recognised. The protective value of HAFFKINE'S prophylactic is unquestionable; but while admitting the advantages which may be derived from it by those who are compelled to come in close contact with virulent cases of plague, we are, on the whole, content to advise its use by Europeans in the Far East only in certain circumstances, and we regard it, therefore, as not essential that the inoculation should be performed before leaving England. The danger of plague to the European in the Far East is becoming less. The amount of plague in India, for example, has shown a remarkable reduction during the last two years, and the number of infected localities has been greatly diminished in the course of the present year. There are, however, some persons, courageous enough in other matters, who display a morbid and exaggerated fear of plague infection. If such persons can, by submitting to inoculation with HAFFKINE'S prophylactic fluid before leaving England, obtain a freedom from anxiety and establish a sense of security against the disease, we see no reason why their medical attendants should not advise that the operation be performed at home, bearing in mind that in competent hands it is a comparatively trivial procedure and that the risks attending it are practically *nil*. It has, however, to be remembered that the duration of this protection against plague is believed to be shorter than that obtained from the antityphoid vaccine, and for this reason it may be necessary, under conditions of continued direct exposure to plague infection, to have the inoculation repeated in six or 12 months' time.

Annotations.

"Ne quid nimis."

THE EXPENDITURE OF THE LONDON HOSPITALS.

A STATISTICAL report has just been published by the directors of King Edward's Hospital Fund for London showing the ordinary expenditure of 66 of the London hospitals in the year 1908. Although very large sums are annually subscribed for the support of hospitals in the metropolis, it is notorious that, owing to want of uniformity and of due economy in administration, a considerable portion of the money formerly subscribed for hospital purposes failed to accomplish the desired object—namely, the relief of suffering and of disease among the poor. The inauguration of King Edward's Hospital Fund for London developed the work already undertaken by the Metropolitan Hospital Fund of bringing order into hospital finance. The Prince of Wales, now President of the Fund,

has throughout his office taken an active part in securing for this undertaking a sound financial basis, and to his keen personal interest it is due that considerable economy has already been effected in metropolitan hospital administration. Although reports of a similar character have been prepared annually for the directors' information ever since the year 1903, we learn from Mr. H. R. Maynard, the secretary of the Fund, that the present is the first occasion on which a full statistical report has been offered for sale to the public. In preparing these reports the primary objects of the directors are to assist individual hospitals to secure an increased degree of control over their own expenditure by comparing the cost of working at different institutions; to enable the managers to observe the result of comparison from year to year; and, generally, to encourage economy in hospital expenditure without sacrificing efficiency. It is worthy of note that the appendix tables in these reports are based on comparisons of *average cost, not of minimum cost*. There is no suggestion that the cheapest hospital is necessarily the best, or that it ought to be regarded as a model for future imitation. It is obvious that in order to secure fair comparability it is necessary to deal exclusively with hospitals of which the conditions are approximately similar. For this reason a considerable number of special and some other hospitals are omitted from the list. In his prefatory remarks the secretary does not attempt to give a complete analysis of the expenditure of each of the London hospitals. For the detailed figures relating to maintenance and administration the reader is referred to the statistical tables now published (in accordance with the revised system of accounts) in the annual reports published by the several hospitals. Appended to the present report there will be found a series of tables giving particulars of total expenditure, as well as of expenditure under various heads, at the larger London hospitals—namely, those containing an average of more than 100 beds, and at certain of the smaller hospitals containing in each case an average of fewer than 100 beds. In these cases all necessary details and statistical explanations will be found, but no attempt is made to dogmatise on the delicate question whether or to what extent the cost is affected by differences in methods, or in efficiency of treatment. The financial results are set forth for the consideration of the authorities of the various hospitals, who are thus enabled to discover the existence of any excess of expenditure and to ascertain whether that excess is preventable. As an illustration of the value of the methods of comparison now adopted, it may be mentioned that the figures for 1905 showed that, as compared with the figures for 1903, the 16 hospitals dealt with in the earlier report had effected economies valued at £21,000 per annum. In 1906, when the number of hospitals had risen to 48, the additional saving represented a further sum of £18,000 per annum. It can hardly be doubted that these economies were in some measure due to the circulation of the comparative figures. The report for 1908 deals with 66 hospitals, but as many of these were added last year and probably did not receive the figures until too late to affect their contracts for that year, no great change is to be expected in the present report. It is further to be noted that the report before us is the first in which the expenditure on in-patients is distinguished from that on out-patients, and for this reason it forms a trustworthy starting-point for comparison of the present with future years. In this report the cost per bed and per out-patient attendance respectively for the various items of expenditure at the hospitals in each group are now for the first time combined in a general table, and in an appendix the more important data are collated in a form convenient for reference. We are pleased to observe that Mr. Maynard concludes his very able prefatory remarks with a graceful acknowledgment of the value of the work of the hospital officials, who have expended much time and care in carrying out the revised system and in filling up the forms and returns for the purposes of the report.

"ETHER DAY."

THERE can be few occasions which more deserve to be perpetuated in the minds of men than that on which was first demonstrated the possibility of anæsthesia during a surgical operation. It is this occasion—or rather its anniversary—that the Massachusetts General Hospital celebrates as Ether Day. For it was in the theatre of that hospital, on Oct. 16th, 1846, that William Morton kept a patient anæsthetised with ether while John Warren operated. We have only recently received a pamphlet containing the address delivered by Professor W. H. Welch of Johns Hopkins University at the last celebration of that historic operation, and we suppose that a further address will be delivered next month. The discovery of anæsthesia is associated with almost as many different names as is the birthplace of Homer. The claims of the rival towns in the latter case can never be fairly judged, but in the former it is comparatively easy to see the part played by the different men, although it may not be so easy to apportion their share of fame. Whatever, though, may be the gratitude with which we look back upon the enterprise of Long, the ingenuity of Jackson, the melancholy success and failure of Wells, there still can be no doubt that for practical purposes the foremost step was that taken by Morton on the occasion to which we have alluded. As Professor Welch declared, it was success on that occasion which made the future certain for anæsthesia. Another public failure such as had ruined the hopes of Wells would have put the clock back for many years. Nor is it to be disputed that the boon of painless surgery is the greatest gift of American medicine to mankind and one of the most beneficent ever conferred. There is a growing tendency to celebrate the gift with too little thought of the giver. Doubtless this is due largely to the multiplicity of claims which we have described. New facts in the history of the matter are not now likely to be disclosed, and we may agree with Professor Welch, who after careful consideration of all those at his disposal confers the chief honour upon William Morton. It is very likely indeed that Morton's claims to the respect and gratitude of all posterity would have been less questioned had it not been for his unfortunate attempt to keep secret the exact nature of his great achievement. The part which the staff of the Massachusetts General Hospital at that time played in defeating any such secrecy may be proudly remembered by all who value professional honour.

THE FIFTH INTERNATIONAL DENTAL CONGRESS, BERLIN.

THE Fifth International Dental Congress was held in the Reichstag from August 23rd to August 28th under the presidency of Professor Walkhoff of the University of Munich. 1600 members attended. A gracious message from His Majesty the Kaiser wishing success to the Congress was communicated amidst great enthusiasm. The work of the Congress, which included addresses, papers, and demonstrations, amounted to 360 items on the programme and was distributed over 12 sections. An admirable collection of pathological dental specimens and prosthetic work was exhibited in the Great Hall of the Reichstag and constituted a leading feature of the congress. Professor Dieck of Berlin, its organiser, was awarded the medal of honour presented by the German

Government. Mr. W. B. Paterson was elected President of the Fédération Dentaire Internationale. Amongst the other British delegates taking an active part in the work of the congress were Mr. H. R. F. Brooks, President of the British Dental Association; Mr. J. Andrew, Belfast; Mr. G. Brunton, Leeds; Mr. F. Bostock, Kidderminster; Mr. G. Cunningham, Cambridge; Mr. W. Dall, Glasgow; Mr. J. Dreshfield and Mr. G. Whittaker, Manchester; Mr. W. Guy, Edinburgh; Mr. W. Harrison, Brighton; Mr. J. H. Mummery, and Mr. Hopewell Smith, London. The next International Dental Congress was fixed to take place in London in 1914.

SALAMANDRIN AS AN ANTIDOTE TO SNAKE POISON.

Madame Phisalix, a French lady scientist, has recently made an important series of observations and experiments on the poisons of snakes and batrachians, from which she has drawn the following conclusions, which were published in *La Semaine Médicale* of August 18th. The poison of the viper has the general character of toxins. It is precipitated by alcohol and the precipitate is soluble in water; it is susceptible to dialysis but with difficulty; when heated to a moderate degree it loses part of its toxicity and can be used for vaccinating animals; but when employed in this way the product which is obtained is not merely a toxin of diminished activity but a substance of quite a different character. Madame Phisalix found that the virus of the viper contains three separate constituents—echidno-toxin, which is the chief toxic principle; echidno-vaccine, which is capable of inducing a certain degree of immunity in animals when injected into them; and echidnase, a kind of diastase which may be compared to pepsin—it is the cause of the local loss of substance due to injections of vaccine. Of these three constituents the last is the most readily affected by heat. If the virus is boiled for 20 seconds no local reaction is produced by its injection. Echidnase can be isolated by three or four successive precipitations of the virus by alcohol, the precipitates being redissolved in water. Echidno-toxin is also affected by heat, so that if the virus is heated to 60° C. for some minutes its activity is greatly diminished or even entirely lost; this is more especially the case if it is previously diluted.[1] Echidno-vaccine is the most easily dialysable and can be obtained by itself by means of a porcelain bougie, as the other two substances do not pass through porcelain. The poison of the salamander, which may be said to possess characters opposite to those of snake poison—producing convulsions, not coma—is similarly not composed of a single principle but of two which exhibit opposite characters, granular poison and salamandrin, a true alkaloid, forming crystallisable salts. As Madame Phisalix has found that the skin of a salamander contains a dose of salamandrin sufficient to kill two salamanders or 38 frogs, and as some serpents prey upon frogs, toads, tritons, and even, when they can catch them, on salamanders, it seems at first sight unaccountable that they should devour such poisonous creatures with impunity. That they can do so is due, according to Madame Phisalix, who has communicated her researches to the Paris Academy of Sciences, to the physiological antagonism which exists between serpent poison and salamandrin. It was found that when salamandrin was injected into serpents it produced the same symptoms as it does in other animals—slowing of the heart and respiration, tonic and clonic spasms, followed by paralysis and stoppage of the heart in systole. These evidences of toxicity were much more pronounced in snakes which, like the viper, do not prey upon the salamander. According to Madame Phisalix's published figures the minimum lethal dose of salamandrin per kilogramme of animal weight was 357 milligrammes for the salamander itself, 177 milligrammes for the Tropidonotus natrix (the common ringed snake), 34 milligrammes for the Coluber lævis, and only 21 milligrammes for the Vipera aspis. This last seems as sensitive as batrachians themselves, the figures for the frog and toad being 30 and 40 milligrammes respectively. The antagonism between salamandrin and snake poison was demonstrated by injecting mixtures of the two into guinea-pigs. Thus a milligramme of salamandrin (a lethal dose) mixed with 2·25 cubic centimetres of serum of the ringed snake, was injected into a guinea-pig weighing 400 grammes with but little effect, but the same experiment, when the serum had been previously heated for a quarter of an hour to 58° C., proved more rapidly fatal than when salamandrin alone was employed. The dried virus of the viper can also be used for mixing with the salamandrin. If the former is heated for five minutes to 80° C. the activity of the Echidno-toxin is so much reduced that the salamandrin is not neutralised and the convulsive effects are observed. The antagonistic effects of a mixture of snake poison and salamandrin are not due to any chemical action between the two but to their opposite physiological action. In order to obtain the antagonistic effects of the two poisons it would appear necessary to inject a mixture, as owing to their differing nature and diffusibility if they are not introduced simultaneously or not at the same spot little or no neutralising of each other's action is observed. Salamandrin is in many ways very similar to strychnine, which was first used in Australia by Müller in 1888[2] in cases of snake-bite. Madame Phisalix, though her experiments are very interesting, will, it is to be hoped, carry them somewhat further, so as to show whether there is any means of quickening the action of salamandrin to make it available as a cure for snake-bite. Being of the nature of an alkaloid and more diffusible than snake poison, there would seem to be more chance of its proving useful as an antidote to snake poison than of the latter neutralising the effect of salamandrin poison.

[1] La Semaine Médicale, 1894, pp. 60, 76.

THE RECENT DECLINE OF INFANT MORTALITY.

BEFORE the close of last year 122 urban sanitary districts had adopted the Act providing for early notification of births to the local sanitary authority, and had satisfied the Local Government Board that measures would be taken to utilise this information for securing greater care of infant life in the several urban populations. This fact gives additional interest to the recent marked decline in the rate of infant mortality, of which the Registrar-General's returns afford abundant evidence. In the first quarter of this year the deaths of infants under one year of age in England and Wales were equal to 122 per 1000 births, which rate was 13 per 1000 below the average in the ten preceding corresponding quarters; and in the second quarter of the year, ending with June last, the rate of infant mortality did not exceed 95 per 1000, and was 17 below the average rate in the corresponding periods of the last ten years. The death-rate of infants in England and Wales, which had been equal to 120 and 110 per 1000 births respectively in the first halves of 1907 and 1908, had thus further declined to 109 in the six months ending with June last, notwithstanding exceptional fatality of measles which caused 8934 deaths, of which it may be estimated that about 2000 were of infants under one year of age. In 76 of the largest English towns the rate of infant mortality during the six months was equal to 112 per 1000, against 123 and 112 in the corresponding periods of 1907 and 1908; in 143 smaller towns the rate, which had been 127 and

[2] THE LANCET, vol. ii., 1891, p. 959; also Hunt, vol. i., 1892, p. 485.

111 in 1907 and 1908, further declined to 108 in 1909, and in the remainder of England and Wales the rate in the first half of this year was 105 per 1000, against 112 and 107 respectively in the two preceding corresponding half-years. It appears, therefore, that the largest proportional decline of infant mortality has recently occurred among the 143 smaller towns, which had at the last census in 1901 enumerated populations ranging from 20,000 to 50,000. During the quarter ending with June last the rate of infant mortality in the 76 largest towns averaged 101 per 1000 and exceeded by 6 per 1000 the mean proportion in the whole of England and Wales. In the several towns, however, the proportions showed an extremely wide range; the rate did not exceed 50 per 1000 in Hornsey, 55 in Hastings, and 59 in King's Norton and in York; whereas it ranged upwards to 134 in St. Helens, 144 in Wigan, and 151 in Preston and in Middlesbrough. Among the 143 smaller towns the range was still wider, the lowest proportions being 18 per 1000 in Salisbury, 33 in Guildford, 35 in Winchester, and 39 in Worthing, while they ranged upwards to 177 in Tunstall, 185 in Darwen, 229 in Farnworth, and 238 in Ince in Makerfield. Notwithstanding the recent general decline in the rate of infant mortality, the record of such striking contrasts in the several towns should stimulate the efforts of the sanitary authorities of those towns in which excessive rates of infant mortality still prevail to control the ignorance and neglect to which this sacrifice of infant life is mainly due.

THE PAST SUMMER.

HOWEVER much this country may have benefited in health, and however many lives may have been saved in consequence of the absence of the usual number of so-called "heat waves," there is no doubt that from the point of view of the holidays the past summer has been pronounced a decided failure in most parts of the kingdom. June and July were very cloudy, often rainy, and always cool for the time of year, and August, which it was hoped would prove a model month, was too hot or too cold, and occasionally too dull and too wet. During the whole summer period there was but one outburst of really hot weather, and that continued for no more than about a week during the first half of August. With that exception the temperature remained obstinately low for the time of year, especially during the afternoons, the sun was often obscured by cloud, and in most parts of the country rain occurred with unusual frequency. As will be seen by an examination of the appended table, the warmth was less than during an average summer throughout the entire country, the greatest divergence from the normal being in the north-western and inland districts of England, and the least at Torquay. It is worth remark that during the hot spell the shade temperature at Torquay rose to 81·9° on August 9th. It says much for the mildness of that portion of the coast that during the whole of the 33 years that observations have been taken no temperature so high has occurred until now. It will be seen that the south-west of England and South Wales enjoyed a much better summer than the country as a whole, the rainfall at some stations being considerably less than the average and the sunshine somewhat in excess. As is well known, the south-west has generally more frequent and heavier rain than the east and south-east, but so abnormal were the conditions obtaining during the past three months that at the Scilly Isles and Torquay the number of days with rain was only 33, while at Yarmouth and Clacton it was 43 or 44, and in London and at Scarborough 47. The central and south-western districts of Ireland were also very dry; at Birr Castle, King's County, the total rainfall was no more than about 50 per cent. of the average. The duration of sunshine showed some notable peculiarities. As a general rule it fell short of the average number of hours, but while at Llandudno the shortage was only two hours and at Blackpool ten hours, the deficiency at Clacton was 135 hours, at Harrogate 110 hours, and at Brighton, Margate, and Nottingham nearly 100 hours. In London (Westminster) the sunshine figure compared favourably with that in almost all of the other large centres of population, but it was 43 hours less than the average, and the mean daily amount was only a little more than 5 hours. Last year the total for the corresponding period was as high as 616 hours and the mean daily amount only a trifle less than 7¾ hours. At Jersey, the brightest spot of all, the mean daily duration of the summer just passed was nearly 7¾ hours, and at Manchester, the most gloomy spot, rather less than 4 hours.

—	Temperature.					Rainfall.			Sunshine.	
	Mean maximum.	Mean minimum.	Mean temperature.	Difference from average.	Mean diurnal range.	Number of days with rain.†	Total fall.	Difference from average.	Number of hours.	Difference from average.
	°	°	°	°	°		ins.	ins.		hrs.
Blackpool	62	51	56·1	−2·6	11	50	9·7	+0·9	540	−10
Llandudno ...	63	51	57·0	−2·6	12	54	9·2	+1·6	554	− 2
Pembroke	61	52	56·5	−1·6	9	39	6·0	−1·6	661	+36
Scilly	62	55	58·9	−0·9	7	33	4·7	−2·2	696	+ 6
Jersey	66	54	60·0	−1·6	12	43	6·2	−0·2	707	−27
Plymouth	67	53	60·0	−0·5	14	38	8·9	+0·7	645	+25
Torquay	66	53	59·9	−0·2	13	33	8·4	+1·3	669	+10
Weymouth... ...	65	54	59·1	*	11	38	7·2	*	657	*
Bournemouth ...	67	52	59·3	*	15	39	8·6	*	611	*
Sandown, I.W. ...	68	54	60·7	*	14	36	8·0	*	604	*
Brighton	65	53	58·9	−2·4	12	39	7·6	+1·3	581	−94
Margate	66	53	59·4	−1·5	13	40	7·6	+1·7	488	−96
Clacton	65	52	58·6	−2·3	13	44	7·9	+1·8	551	−135
Yarmouth	64	51	57·7	−1·5	13	43	6·4	−0·6	567	*
Scarborough ...	64	51	57·5	−0·6	13	47	8·9	+1·5	445	−64
Leith	63	50	56·4	−1·5	13	51	5·9	−2·4	?	?
Aberdeen	61	49	54·7	−1·2	12	49	8·7	+0·9	450	−53
Glasgow	62	50	55·8	−1·2	12	49	9·7	−0·5	446	+ 5
Manchester ...	64	52	57·8	−1·3	12	49	10·5	+0·4	360	*
Liverpool	62	52	56·8	−2·5	10	50	8·1	0·0	541	*
Birmingham ...	65	50	57·5	−1·6	15	50	8·5	+0·7	433	−46
Nottingham ...	66	50	57·8	−3·3	16	54	8·8	+1·5	487	−97
Harrogate	63	48	55·7	−1·7	15	55	8·5	+0·5	452	−110
Buxton	62	47	54·5	−1·9	15	54	10·5	−1·8	494	*
Bath	66	51	58·6	−2·2	15	44	7·3	−0·6	563	−26
London	67	53	60·1	−2·1	14	47	8·4	+1·4	473	−43
Birr Castle, Ireland	64	49	56·7	−1·5	15	46	4·8	−4·6	422	−29

* No trustworthy average. † A day with at least 0·01 in.

THE SALFORD GUARDIANS AND THE HOPE HOSPITAL.

"IT is pretty generally known," writes a Manchester correspondent, "that the Salford guardians find a difficulty, not, it is said, at present overcome, in obtaining the medical staff they require for the Hope Hospital, since the conditions are not such as qualified medical men should be asked to accept, and yet this does not seem the time to lower the position of the medical staff, and to diminish the medical supervision over patients and attendants, if a recent occurrence at the hospital is reported correctly. A relative of a patient, it appears, wrote to one of the lady guardians to complain of

an assault said to have been committed on a sane epileptic patient, and on investigation the complaint was justified. The patient was doing some work ordered by an attendant when another attendant told him to leave it and go upstairs. The man refused, and then this second attendant 'got hold of him and threw him on the ground, took hold of him by the clothing of his neck and dragged him along.' The visiting committee had recommended that the two attendants should be dismissed, and it seems clear that one was unfit for his duties whatever the other may have been; but after considerable discussion the matter of the dismissal was referred back. The hospital committee was unfortunate in its uncertainty as to how to deal with its attendants, as also in the decision not to renew the appointment of the senior medical officer and in the attempts to replace him, while they are also losing a junior colleague who intimated that he was about to resign. In the present state of things the Hope Hospital medical appointments do not seem to hold out pleasant prospects. There was one application for the senior appointment, which was afterwards withdrawn, and it was decided to readvertise the vacancy. One of the guardians said that the lack of applicants was doubtless due, to some extent, to the 'present time being a difficult one to obtain medical men'; but a local paper says that 'the treatment of the senior resident medical officer has aroused a strong feeling among the medical profession, and the institution has been practically boycotted by the profession.' This, perhaps, may account for the difficulties of the committee quite as much as any peculiarity in the season. It may be well for guardians to be reminded that though the medical profession has its duties, which are rarely neglected, it has also some claim to be treated with consideration and respect."

A RARE COMPLICATION OF THE SERUM TREATMENT OF DIPHTHERIA IN CHILDREN.

IN the *Gazette Médicale Hebdomadaire des Sciences Médicales de Bordeaux* of June 13th Dr. Rocaz and Dr. Carles have called attention to a curious result of the antitoxin treatment of diphtheria which does not appear to have been observed in this country. Toxic symptoms, due to the horse serum, are well recognised. Of these the most common is an erythematous or urticarial eruption which appears from eight to 12 days after the injection of antitoxin. Dr. Rocaz and Dr. Carles state that when the injection is given sufficiently early and the child is not too young the signs of laryngeal stenosis gradually diminish and the voice and cough regain their normal timbre, and in two or three days the laryngeal condition appears normal. But three, four, or five days after the first injection of antitoxin a general urticarial eruption appears and at the same time the cough reappears with its hoarse and muffled timbre. Then the retraction of the chest during inspiration returns and increases from hour to hour until it attains its former intensity, suggesting a relapse of the laryngeal diphtheria. But, as MM. Sevestre and Martin showed at the Société de Pédiatrie de Paris in 1903, there is nothing of the kind. The exanthem due to the serum is accompanied by a similar inanthem. This produces acute congestion and œdema of the mucous membrane of the larynx, which is characterised by its sudden appearance with the serum eruption and its rapid disappearance with the latter. If the child has been intubated and the tube has been removed a day or two the laryngeal stenosis may necessitate its reinsertion. Hence a tube should not be removed at the time of appearance of a serum eruption. On the other hand, if the child has been breathing well without a tube, whether one had previously been used or not, the practitioner should not be in a hurry to insert one, for the symptoms are usually ephemeral. Dr. Rocaz and Dr. Carles report five cases of laryngeal obstruction due to the injection of serum of which the following are examples. A boy, aged six years, was admitted into hospital on Nov. 4th, 1908, suffering from diphtheria with marked retraction of the chest and completely muffled cough. 20 cubic centimetres of Roux's serum were injected and intubation was performed. On the 5th, 6th, and 7th the membrane persisted on the tonsils and the injection was repeated. On the 8th the membrane disappeared and the tube was removed. There was no retraction of the chest or dyspnœa. In the afternoon an urticarial eruption appeared at 4 P.M., the retraction of the chest returned, and it increased more and more in spite of the administration of a sedative draught. It was so intense at six o'clock that intubation was again necessary. On the 10th the eruption had disappeared and the tube was removed. In another case a boy, aged six years, was admitted on Nov. 9th with intense retraction of the chest, but the condition was well borne and there was no cyanosis. 40 cubic centimetres of Roux's serum were injected. On the 10th the condition was unchanged and 20 cubic centimetres of serum were injected. On the 11th there was slight improvement but the membrane persisted on the tonsils. 20 cubic centimetres of serum were injected. On the 12th the retraction had disappeared but the voice was still muffled. On the 13th a serum eruption appeared and the retraction returned. On the morning of the 14th the retraction became as intense as on admission, but as it was well borne no operation was performed, sedatives were given, and the steam-kettle was used. Later in the day the whole body was covered with an urticarial eruption and the retraction was as intense as before. On the 15th the retraction and the eruption disappeared *pari passu*. These cases are clearly of great clinical interest.

LEGISLATION FOR THE CARE OF THE FEEBLE-MINDED.

To those who have read and studied the report of the Royal Commission upon the Care of the Feeble-Minded it must have been most disappointing that no greater amount of official attention has apparently been accorded to its extremely important and instructive findings and recommendations. It is with feelings of surprise that the plain citizen who is, perhaps, no politician observes how frequently legislation, ill-considered and ill-devised, is proclaimed of the most urgent and utmost importance, while the recommendations put forward by a judicially minded body of men who have had very special opportunities of making themselves acquainted with the subject before them are ignored. It is now more than a year ago since the report of the Royal Commission on the Care of the Feeble-Minded was published. A chorus of general approval of the report has gone up from all the many quarters in which there are experience and knowledge of the problems at issue. It has repeatedly been pointed out that not only is there a large mass of suffering which is not at present adequately dealt with, but that the whole community is suffering and becoming vitiated by lack of proper control of the feeble-minded. To deal with this problem at its root is also to deal with many another which at present is only being superficially tinkered at. The problems of the casual ward, of the habitual loafer, of drink, of degeneracy, and of the prevention of crime would all be immensely simplified by the scientific treatment of the feeble-minded. Unfortunately, the interest of the public is on such points as these concentrated, where it is roused at all, on those remedial measures which too often give birth to greater evils than those they were designed to combat. The surface symptoms are dealt with, while the causes

and prophylaxis of our social ills are ignored. In this weakness and misdirection of our legislative aspirations the politician finds his cue, while the worthy recommendations of a great Commission are neither studied nor acted upon. We are exceedingly glad to observe that the Conference of Charity Organization and Kindred Societies held at Worcester in June last appointed a deputation to be sent to the Home Secretary and that the deputation has lately been received, being introduced by Mr. Dickinson, M.P., who is known for the special interest he takes in the problems of the feeble-minded. Mr. C. S. Loch, Dr. Ramsay, and others spoke, and pointed out to Mr. Gladstone the extreme importance of the questions at issue. Mr. Gladstone was, we are happy to notice, distinctly sympathetic in his reply, agreed that legislation was necessary, and expressed himself as being encouraged to believe that a practical effort might be made next year. We fear that this is but cold comfort for those who feel the urgent need for early legislation, but it is at least something that a Secretary of State should have shown himself sympathetic and should have acknowledged the supreme importance of the subject. We would ourselves urge upon public bodies who are engaged in the work of the care of the feeble-minded the desirability of their making repeated representations in the proper quarters as to the need that undoubtedly exists that the recommendations of the Royal Commission should ere long be acted upon. The matter should be kept before the Government, and this can best be done by the united voices of influential societies composed of those having an intimate acquaintance with the present conditions and with the need for their improvement.

A CIRCULAR, dated Sept. 2nd, has been issued by the Local Government Board to the Port Sanitary Authorities and certain Riparian Sanitary Authorities informing them that cholera, which has been, and still is, epidemic in Northern Russia, particularly in the St. Petersburg district and at Archangel, Cronstadt, Riga, and other Baltic ports, has now extended to Holland, and that several cases and deaths have already occurred at Rotterdam and in the vicinity. The authorities of British ports trading with Rotterdam or with North Russian ports are thus warned to be on their guard against the importation of cholera into their districts by vessels coming from places where the disease has appeared or is likely to appear. The circular further states that the Board relies on the Port and Riparian Sanitary Authorities taking all necessary steps under the Order of Sept. 9th, 1907, to prevent the introduction of cholera into this country.

WE regret to announce the death, on Sept. 3rd, of Sir Stephen Mackenzie, M.D. Aberd., F.R.C.P. Lond., consulting physician to the London Hospital, in his sixty-sixth year. We shall publish a note of his career in another issue.

QUEEN ALEXANDRA'S IMPERIAL MILITARY NURSING SERVICE.—Existing vacancies for staff nurses in this service will be filled at once. Full particulars as to the conditions of service and forms of application for admission can be obtained by applying to the Secretary, War Office, Whitehall, S.W., or personally to the Matron-in-Chief, at the same address, who will see candidates on Tuesdays and Thursdays between the hours of 10 A.M. and 1 P.M.

RUSSIAN MEDICAL STATISTICS.—According to statistics just issued by the chief medical inspector of the Ministry of the Interior for the year 1906, the most recent available, the number of civilian doctors in that year in Russia was 17,096. There were accoucheurs, 11,032; dental doctors and dentists, 4917; and pharmacists, 8828. Patients treated in hospital reached the total of 2,458,207, of whom 127,921 died—that is, a mortality of 5·2 per cent.

MOTORING NOTES.

BY C. T. W. HIRSCH, M.R.C.S. ENG., L.R.C.P. LOND.

The Budget Concessions to Medical Men as to Petrol Tax.

Mr. Lloyd George promised on July 1st to reduce the tax on petrol for doctors' motor-cars from 3*d.* to 1½*d.* a gallon. Thus, what would have been an undoubted burden, especially on practitioners in hilly country districts, as mentioned in THE LANCET of May 8th, has been removed. As yet dealers are still charging the full duty, so until the method of obtaining the rebate is made public it is advisable when buying petrol to obtain a receipt, as probably these papers will be needed to obtain the refund. Those who up to now have bought their fuel while on the road and neglected to secure a receipt may have some difficulty in obtaining the allowance.

The 14-h.p. Wolseley-Siddeley Autocar.

Recently Lord Curzon, when opening the new science buildings at St. Paul's School, spoke on English self-depreciation, and remarked that the pessimists were abroad in the land. This statement rather applies, or did apply, to motor matters. Even now we may be worsted at some international race, but things have altered since 1897, when perhaps hardly anyone believed that a wholly made English car could be turned out, or, being manufactured, that it was in any way comparable with the foreign article. The car about to be described, which is made by the Wolseley Company (a branch of the engineering firm of Messrs. Vickers, Son, and Maxim), does, I think, demonstrate that we should not decry British-made cars. Many of the profession have had much good work out of this firm's earlier productions, and a number still use their noisy but ever-going little 6-h.p. car, so it was with much satisfaction that the writer accepted the firm's invitation to see and to report for the readers of THE LANCET on a car which, though not admittedly intended to compete with cheap cars made by other (both British and foreign) makers, stands for an all-English car turned out by a high class of engineering works.

The single-cylinder as well as the four-cylinder has its advocates. The former is more economical as regards repairs and petrol consumption, but on account of the unevenness of the torque it is probably more subject to tyre and transmission wear, and, in addition, is more audible. Now a doctor's car should excite admiration without annoying by its "stertorous respirations," so there is, of course, much to be said in favour of the latter. The car under consideration is a four-cylinder one. The engine bore is about 3½ inch and the stroke is 4 inch. The cylinders are cast in pairs and have their water-jackets cast in one with the rest of the cylinders, with both inlet and exhaust valves situated underneath on the same side of the motor. Large inspection holes, guarded by plates, are provided over the water-jackets, so these spots for the accumulation of lime salts and grease can easily be cleaned out. This is a good feature, as many motorists will not use distilled water, and will keep on screwing down the grease box on the pump spindle, with the result that the water jackets become furred up and overheating results. On these engines, if this takes place, the jackets can easily be cleaned, and this, too, without dismantling the engine. The cam shaft, as on most modern cars, excepting some of the Italian Daimlers, is enclosed, and, of course, this has advantages, and naturally disadvantages, but probably the former outweigh the latter. The Wolseley valve tappets are very solid forgings and well made, so they are not likely to fracture. Those who have had this experience are probably in favour of external two to one shafts. The ignition is by high-tension magneto, but dual ignition can also be fitted, and for doctors this is certainly advisable. The carburettor is of the spray type, fed by gravity, and ensures great efficiency in respect of fuel consumption. An important point is that the jet can be easily got out for cleaning purposes, merely undoing a union, and the induction pipe can be removed, and then with a box spanner the jet can be extracted. On this car, I suppose because it can be so easily done, it will seldom be required, as under the entrance a tap and petrol filter is fitted, so it is impossible for foreign bodies to reach the jet. The filter, too, can be rapidly taken down should the gauze need cleaning. The water-cooling circulation is on the

thermo-syphon system, assisted by fan-produced air draught, and a multitubular radiator is employed. The circulating pump is dispensed with, and the pipes are of very large diameter. Lubrication is carried out by an oil pump driven off the motor, the main crank shaft bearings being supplied directly under pressure from the pump. In addition, the lubricant is pumped into troughs beneath the connecting rods, and any excess supplied falls over the sides of the troughs back into the slump, and so is pumped round once more. The connecting rod bearings have scoops, which dip into the troughs and are thus oiled, and in addition supply the other parts with oil by splash.

The transmission from the engine to the gear-box is by means of a leather-faced cone clutch, the shaft being universally jointed. For an owner without a chauffeur this form of clutch is without question the best, for a cone can be easily releathered, but damage to a multiple disc type means sending the whole part to the makers. Three speeds forward and a reverse are provided, the top speed being direct drive. The gears are operated by the popular gate-change system, which certainly has the advantage that two or more sliding members can be used, and thus the gear box is reduced in length and weight, and long shafts are done away with; in addition, a change can be made from any gear to another without passing through the intermediate gears. The final transmission to the road wheels is by means of a propeller shaft driving on to a live axle; in addition to being fashionable, this is an improvement on the side-chain method, as owners without chauffeurs dislike chain cleaning, and, what is more, few would keep them in alignment by correctly adjusting the radius rods. The foot brake operates on a drum fitted to the secondary gear shaft, close up to the rear end of the gear box, and a device is provided, which can be reached from the side of the car, that permits of instantaneous adjustment. The hand brake is of the internal expanding kind and acts on drums on the rear wheels. The throttle and ignition levers are mounted on the steering wheel; the throttle can also be worked by a foot pedal, which is an advantage when driving in traffic. The suspension of the car is very comfortable, even for those riding in the back, which is due to the flexibility of the semi-elliptic springs fitted to all the wheels. On the cars with a larger wheel base an additional transverse spring is provided at the rear. The car can be had with a wheel base of either 8 feet 9 inches or 9 feet 3 inches. I am sure that for doctors it should be possible to turn the car round in a moderately wide road without reversing. For the profession I strongly advise the shorter wheel base, which gives sufficient room for a side entrance body.

I used the car for a morning's professional round, and to give it a further test I took it for an 80 mile run in the country, chiefly over cross-country roads and up some real Kentish hills. I found that, though I had not previously driven this type of Wolseley-Siddeley car, she was delightfully easy to drive in traffic, picking up on the top speed in a remarkable way. The leather-faced clutch, with its adjustable springs under the leather, engaged in a satisfactory manner, and the gate-change speed worked easily and silently when needed. Even in traffic the engine kept cool, and the thermo-syphon system seemed a success. As usual when testing a car, I took it up a bad hill and tried each set of brakes separately, both in ascending and descending. I found both powerful and that either would alone hold the car. Some men buy a car merely on the price, and of course it may be worth while to pay more for a car with a reputation than even for an equally good machine of either an unknown or not popular make, for naturally customers do hesitate to buy a secondhand unknown automobile. Still this point should not influence the doctor in search of a mechanical mount, for he buys a car for work, and the selling depreciation does not affect him. He gets his car and it should be immaterial to him if at the end of his first year its selling value is but 50 per cent. of the price he gave for it. In other words, the running depreciation interests him more than the selling, and providing that he has had to spend but little in repairs and that the car runs after a year as well as when he bought it the market value of it is of little import to the owner. Still, in case the owner should wish to dispose of his vehicle it is an advantage to possess one built by a firm as well known as the Wolseley, as such cars can be readily disposed of. In addition, their cars are standardised, so spare parts that will fit can always be had, and provided the owner or his chauffeur keeps the car in a state of efficiency, with the nuts tight, the bearings adjusted, the contact breaker true, the carburettor clean, the brakes from rubbing when off, &c., then when, say at the end of two years, an overhaul is, as a matter of precaution, undertaken, much adjustment will not be required, and probably not any replacements needed. The moral, of course, is that it is cheaper in the long run to purchase a car of good make and construction, such as the one under consideration, than a cheaper one of inferior build, though it must be admitted that by standardisation and building in quantities many cheap motor-cars are turned out which, in addition to being cheap, are also decently built and run well. From what I know and have seen of the productions of the Wolseley Company I feel confident that their cars, and especially the 14-h.p. autocar, may be relied upon as a sound motor mount well suited for a doctor. Such a car will not develop interesting but troublesome ailments, while it can be driven daily in all weathers and will still run with sweetness and certainty.

POST-GRADUATE STUDY.

(*Concluded from p. 689.*)

PROVINCIAL.

Birmingham.—At the University of Birmingham special courses for post-graduates have not yet been instituted, except in the subject of Advanced Bacteriology (January to March) and Clinical Pathology and Bacteriology (April to June) and a course of Veterinary Pathology and Bacteriology for Veterinary Practitioners (October to December), but the various departments of the University are open to graduates who can attend any of the systematic courses on payment of a fee. Graduates may also work in the laboratories under the supervision of the professors for a small fee to cover the incidental expenses. Applications for information should be made to the Dean.

Bristol.—Courses of post-graduate instruction adapted to the requirements of those proceeding to the M.D. degree of the Universities, each lasting about 12 weeks, will be held at the Bristol Royal Infirmary and General Hospital. The course will consist of: (*a*) clinical demonstrations on cases selected from the wards and from out-patients in medicine, obstetrics, dermatology, and laryngology; and (*b*) tutorial classes in medicine, obstetrics, pathology, laryngology, bacteriology, and dermatology. Classes in clinical medicine will be held twice a week—once at the Infirmary and once at the Hospital—by Dr. F. H. Edgeworth at the Infirmary and by Dr. J. Michell Clarke and Dr. J. O. Symes at the Hospital. Classes in obstetrics will be held once a week on alternate weeks at the Infirmary and Hospital by Dr. Walter C. Swayne and Mr. D. C. Rayner respectively. A class in pathology will be taken once a week in the museums of the Infirmary and Hospital on alternate weeks by Professor Walker Hall and Dr. E. Emrys-Roberts respectively. Six demonstrations on dermatology will be given by Dr. J. A. Nixon and Dr. W. K. Wills at the Infirmary and Hospital. Six demonstrations on laryngology will be given by Dr. Watson Williams at the Infirmary. A practical course in bacteriology consisting of six demonstrations will be held by Professor Stanley Kent at University College. A tutorial class in medicine will be held on one evening a week by Dr. G. Parker, Dr. Newman Neild, and Dr. J. R. Charles in rotation, and a similar class in obstetrics will be taken once a week by Dr. Walter Swayne and Mr. Rayner alternately. The fees are as follows:—For the whole course, £7 7*s.*; for classes in clinical medicine, pathology, laryngology, and bacteriology and tutorial class in medicine, £5 5*s.*; for classes in obstetrics, pathology, and bacteriology, £3 3*s.*; and for clinical medicine and obstetrics only, £3 3*s.* Applications to attend the classes should be made to Dr. Walter Swayne, 56, St. Paul's-road, Clifton, Bristol.

Cambridge.—Long vacation courses are held at Cambridge during the month of July and the first fortnight in August. This year the course included lectures and demonstrations on general and special pathology by Professor G. Sims Woodhead, on bacteriology for medical students by Dr. Louis Cobbett, an advanced course on bacteriology for

students of sanitary science by Dr. G. S. Graham Smith, a course in pharmacology by Professor J. B. Bradbury and Dr. W. E. Dixon. The pathological and pharmacological laboratories are open to advanced students and graduates. Applications for information should be made early in the year to Mr. E. E. Stubbing, Pathological Laboratory Museum, Downing-street, Cambridge.

Leeds.—The Anatomical, Physiological, and Pathological Laboratories at the University of Leeds are at the disposal of qualified medical men for research or for routine work at specially arranged fees, and though there is no definite post-graduate course at the General Infirmary the work of the large teaching institution is very freely accessible to qualified medical men at reduced fees. For the past few years a course of post-graduate demonstrations has been held by members of the staff of the Leeds Public Dispensary. The course has been very well attended and it is now proposed somewhat to extend the scope of the work by offering short courses of from four to six demonstrations on special subjects and by arranging for a weekly demonstration of cases of an informal character. This arrangement will hold good for the winter, the usual course of demonstrations being held during the summer.

Liverpool.—At the University of Liverpool the department of Bio-chemistry is devoted entirely to post-graduate teaching and research upon chemistry in relationship to biology and medicine. The laboratory is open daily for research, and courses of laboratory instruction in those parts of the subject most closely related to medical work are given for medical practitioners by arrangement with Professor Benjamin Moore. The Thompson-Yates and the Johnston laboratories are open for post-graduate research in pathology and physiology during the winter and summer sessions, under the supervision of Professor Sir Rubert Boyce and Professor C. S. Sherrington. A course of lectures and practical work in the laboratory is given each term in comparative bacteriology and parasitology by Professor H. E. Annett, who also conducts a course of lectures and demonstrations in comparative pathology during the summer term. In the department of Tropical Pathology special courses of laboratory instruction in bacteriology, parasitology, morbid histology, pathology, and medical entomology are given in each term, under the direction of Professor Ronald Ross, Dr. J. W. W. Stephens, and Mr. R. Newstead. A course of instruction in operative surgery is given by Mr. Thelwall Thomas on two days in the week during the summer session to candidates for the Fellowship of the Royal College of Surgeons of England and the higher university degrees in surgery. By special arrangement a practical course on the clinical examination of the blood, the staining and identification of pathogenic bacteria, and the bacteriological diagnosis of certain diseases is given twice weekly during the summer term by Dr. E. E. Glynn and Dr. W. B. Warrington. Three courses annually are given in tropical medicine and parasitology in the Liverpool School of Tropical Medicine in the University, and a Diploma in Tropical Medicine is granted. Post-graduate courses on diseases of the eye, skin, throat, and nose are also given during term time by the lecturers in those departments. At the Royal Infirmary special arrangements exist whereby medical practitioners can keep in touch with the most recent methods adopted in hospital practice. Mr. Douglas Crawford delivers a course of lectures and demonstrations in surgical and applied anatomy during the autumn, summer, and Lent terms, which is intended to meet the requirements of students preparing for the final professional examinations. Mr. Craig Dun delivers a short course of clinical lectures and demonstrations on the surgical diseases of children during the winter session at the Liverpool Infirmary for Children.

Manchester.—The plan adopted a few years ago at the University of Manchester of having special courses of lectures on medicine and surgery for qualified medical men has since that time been considerably modified. Classes are now held and lectures given on various special subjects, as, e.g., diseases of the heart, diseases of the respiratory organs, of the kidney, and so on, and the same obtains as to surgical matters. These lectures are designed to meet the wants of senior students and practitioners. During the past summer post-graduate clinical demonstrations have been given twice a week at the infirmary by members of the staff, and as they were very well attended a more complete series of demonstrations will probably be arranged for next summer. There are good opportunities also for post-graduate study at the special hospitals for diseases of the eye, throat, ear, and skin, &c., but no special demonstrations are given. The Public Health Department, presided over by Professor S. Delépine, is largely attended by medical men, as are also the lectures on bacteriology given in the College course by Dr. E. J. Sidebotham. Facilities are also given for the pursuit of research work in the public health laboratories, and in this department the dates of post-graduate courses in pathology and bacteriology are announced in the laboratory and in the medical journals. There is no difficulty in Manchester in the way of any practitioner who wants to have his recollections revived or his knowledge enlarged and brought up to the present standard in accomplishing his wish.

Newcastle-upon-Tyne.—At the University of Durham courses of instruction are given in chemical and physical laboratory work and lectures are delivered on comparative pathology and practical bacteriology for the Diploma in Public Health and the Degree of Bachelor in Hygiene.

Sheffield.—At the University of Sheffield post-graduate courses are held annually. The subjects vary from time to time and include medical and surgical anatomy, physiology of digestion and nutrition, pathology of the blood, clinical bacteriology, surgery, ophthalmic surgery, operative surgery, diseases of the nose, and diseases of the ear.

SCOTLAND.

Aberdeen.—Although there is no special provision at Aberdeen for post-graduate study such as exists in London, still there are some facilities for doing work of this nature at the University. There are fully equipped laboratories in anatomy, anthropometry, bacteriology, botany, chemistry, pharmacology, physics, physiology, public health, and zoology. Graduates or others desiring to engage in special study or research may be admitted by the Senatus to prosecute such study or research in any of the laboratories in accordance with certain provisions. Research students are exempted from payment of laboratory fees, but are required to matriculate each year, paying the ordinary matriculation fee (£1 1*s.* for winter and summer; 10*s.* 6*d.* for summer). Forms of application for admission as research students may be had from the Secretary of the Senatus. The fees are £3 3*s.* for six hours per week in winter or nine hours per week in summer, 10*s.* 6*d.* and 7*s.* being charged for every extra hour per week in winter and summer respectively. The fee for the Public Health Laboratory for six months is £6 6*s.*, and for the Bacteriological Laboratory for three months is £4 4*s.*, £3 3*s.* and £1 11*s.* 6*d.* being respectively charged for a half course or any less time. At the Royal Lunatic Asylum, accommodating above 700 patients (fees, £2 2*s.* for three months), arrangements are made for extra teaching in the higher departments of medical psychology and cerebral pathology for graduates who desire it or wish to obtain the certificate of the Medico-Psychological Association of Great Britain and Ireland. Clinical work may be done at the following places:—(General Hospital): Aberdeen Royal Infirmary (accommodating 200 patients, perpetual ticket £6, or first year £3 10*s.* and second year £3, thereafter free); Sick Children's Hospital (75 patients; first year £2 2*s.*, then £1 1*s.*); City (Fever) Hospital (100 beds; £1 1*s.* for three months); General Dispensary and Lying-in and Vaccine Institution (10,000 out-patients per annum; perpetual fee, £3 3*s.*); and Ophthalmic Institution (16,000 patients per annum, fee £1 1*s.*). During the summer session (April to June) special classes, each costing £2 2*s.*, are held at the Royal Infirmary, the subjects being diseases of the skin, medical electricity, dental surgery, anæsthetics, ophthalmology, and gynæcology. Lectures on Diseases of the Ear and Throat are given at the Dispensary.

Edinburgh.—Post-graduate teaching now occupies a recognised place in the Edinburgh school, the arrangements connected therewith being entrusted to a committee consisting of representatives appointed by the Faculty of Medicine of the University and the Royal Colleges. Exceptional facilities for post-graduate instruction are afforded during the summer vacation. Throughout the month of August a series of practical classes are held which form a useful introduction to the elaborate course conducted during September. The following are the subjects dealt with in the August classes: (*a*) examination of the urine and digestive products; (*b*) modern methods of examining the heart; (*c*) examination of

the pregnant, parturient, and puerperal patient; (*d*) examination of the ear, nose, and throat; (*e*) examination of the nervous system; (*f*) bacteriological methods; and (*g*) methods of blood examination. The vacation course proper, which commences on August 30th, extends for four weeks and comprises a special surgical course and a general course, these being carried on simultaneously. (*a*) Surgical Course. The following classes are reserved for those attending the Surgical Course, the entries for which are limited to 25: (1) Operative Surgery on the cadaver (30 hours); (2) Surgical Anatomy, including five demonstrations on X rays applied to surgery (20 hours); and (3) Surgical Pathology, including five demonstrations upon microscopic methods of value in surgical diagnosis and upon the preparations of museum specimens (20 hours). In addition to the above-mentioned classes, which are reserved for those who have entered for the Surgical Course, there will be from 11 to 1 o'clock daily surgical clinics in the wards, including eight clinics upon the commoner surgical affections of children, clinics in the out-patient department, and specially arranged ward visits, so that each day there will be from two to two and a half hours of special surgical instruction in the wards. The attendance upon these surgical clinics in the Royal Infirmary and Royal Hospital for Sick Children is open alike to those attending the surgical or the general course. Notices of operations will be posted daily at the entrance to the infirmary. The fee for the Surgical Course is 10 guineas. (*b*) Medical Course. This extends over the same period as the surgical—viz., from August 30th to Sept. 25th. It is divisible into two independent fortnights. The fee for either fortnight is 3 guineas, while for the four weeks the composite fee is 5 guineas. In addition to special medical clinics, clinics on diseases of children, and medical ward visits, series of clinics will be held upon neurology, dermatology, diseases of the eye and the exanthemata, while series of demonstrations will be given upon medical anatomy, morbid anatomy, tropical diseases, the medical inspection of school children, the pathology of the eye, and infant feeding. Those attending the general course may also attend any of the surgical clinics or ward visits in the Royal Infirmary and Royal Hospital for Sick Children which are held between the hours of 11 and 1.30. (*c*) Special Classes. In addition to the two courses above referred to a number of classes will be in progress admission to which will be open to anyone who has entered for either the surgical or the general course on payment in the case of each class of an additional fee of 1 guinea. These classes are clinical bacteriology, diseases of the blood (this class is specially intended for those who have some previous knowledge of the methods of blood examination), practical gynæcology, X rays applied to medicine, diseases of the ear, nose, and throat, ophthalmoscopy, and errors of refraction. The attendance upon these classes is limited, and they are so arranged that they neither clash with one another nor with the important classes included under the general course.

Each day throughout the course a lecture will be delivered at 5 o'clock upon some subject of general interest. These lectures are open to all those attending either the surgical or general course. Accommodation may be obtained during September at one of the residences of the University Hall. Information regarding other accommodation may be obtained from the secretary. The committee of the University Union has decided to open the building during September for the use of graduates attending the course. Graduates of any university are eligible for temporary membership for one month on payment of a fee of 5*s*. The Union, which adjoins the University buildings, contains a library, reading-rooms, dining hall, smoking-room, billiard-room, &c. Copies of the syllabus of both the August classes and the September course may be obtained from the Secretary, the Faculty Office, University New Buildings, Edinburgh.

Glasgow.—At Glasgow the possibilities for post-graduate work are considerable, and in almost every department graduates have opportunities for acquiring more special knowledge or carrying on original work. In pathology, courses in "Practical Bacteriology" and "Pathological Histology" for graduates will be commenced in the pathological department of the Western Infirmary about the middle of October. The courses will extend over eight weeks, each class meeting thrice weekly. The fee for either course is £3 3*s*., and for both courses £5 5*s*. In the Pathological Institute there is a limited number of rooms specially fitted up for research work, and arrangements can be made for graduates who are desirous of engaging in work of this nature. Those interested in embryology may take out the practical course, or if they desire to do special work may obtain the use of a table in the embryology laboratory with such guidance and help as the lecturer can give. The University also has the right of nomination to a table in the laboratory of the Marine Biological Station at Millport. This station is happily circumstanced as regards the richness and variety of the fauna, which can readily be obtained and kept alive in the tank rooms under approximately natural conditions. It thus offers facilities for various kinds of biological study and particularly for physiological and pharmacological work on the marine invertebrates. Further information regarding the station can be got from the honorary secretary, Mr. Geo. Middleton, 83, Bath-street, Glasgow. Post-graduate instruction in public health laboratory work is given in the University laboratory during both winter and summer sessions, and opportunities are offered under prescribed conditions for original research work. As regards physiology and materia medica, the new laboratories are now in working order and every facility is afforded to those wishing to engage in original research work. During the winter months classes in physiological chemistry and physiological psychology will be conducted by the University lecturers in these subjects. In the eye infirmary Dr. A. F. Fergus conducts every autumn a course of post-graduate instruction on refraction testing and on squint. The course extends over a period of two months, during October and November, and the meetings are held twice weekly—namely, on Tuesdays and Fridays in the afternoon. At Anderson's College Medical School the Public Health Laboratory course, conducted by Dr. Carstairs Douglas, is open to all qualified medical practitioners (including women), and is recognised for the Diploma in Public Health by the University of Cambridge, the Scottish Conjoint Board, and the Irish Colleges. The laboratory is fully equipped and the complete course in Chemistry, Bacteriology, and Microscopy is carried out. It is supplemented when desired by a three months' course of lectures on Sanitation, Vital Statistics, and Sanitary Law, attendance on which enables candidates to dispense with three months of the outdoor Public Health work. The course will commence about the middle of October. As regards Operative Surgery, graduates desirous of taking out a course in this subject can obtain the necessary facilities by arrangement with the Dean of Anderson's College. The new Maternity Hospital gives exceptional scope for post-graduate work. There are 110 beds and a large out-door department. Two physicians are on duty at a time and there is a daily clinique. The fees for post-graduate work are £3 3*s*. for a month, £6 6*s*. for three months, and £10 10*s*. for six months. There is also a residence in the hospital grounds, for 15 persons, and available both for graduates and students, board and lodging being charged at £1 7*s*. 6*d*. per week. Post-graduate classes are conducted at the Royal Infirmary during the autumn months. The different courses are as follows:—1. Opening Lecture: Sir Thomas Oliver, at 4 P.M. on Sept. 1st. 2. Clinical Medicine: Dr. T. K. Monro, at 4.30 P.M. on Thursdays, Sept. 2nd, 9th, 16th, and 23rd, and Dr. J. M. Cowan, at 4 P.M. on Tuesdays, Sept. 7th, 14th, and 21st. 3. Clinical Surgery: Mr. J. H. Pringle, at 4 P.M. on Monday and Fridays, Sept. 3rd, 6th, and 10th; Mr. A. N. Macgregor, at 11 A.M. on Tuesdays and Fridays, Sept. 14th, 17th, 21st, and 24th; and Mr. John A. C. Macewen, at 9.15 A.M. daily during September. 4. Hæmatology: Dr. Walter K. Hunter, at 4 P.M. on Wednesdays, Sept. 8th, 15th, 22nd, 29th, and Oct. 6th. 5. Surgical Diseases of the Urinary Organs: Dr. David Newman, at 4.15 P.M. on Tuesdays and Fridays, Sept. 3rd, 7th, 10th, 14th, 17th, 21st, and 24th. 6. Diseases of the Bladder: Mr. A. G. Faulds, at 4 P.M. on Mondays, Sept. 20th and 27th, and at 3 P.M. on Friday, Sept. 24th. 7. Clinical Examination of the Urine: Dr. John Henderson, at 9.30 A.M. on Tuesdays and Fridays, Sept. 3rd, 7th, 10th, 14th, 17th, and 21st. 8. Diseases of Throat, Nose, and Œsophagus: Dr. John Macintyre, at 4 P.M. on Mondays and Thursdays, Sept. 2nd, 6th, 9th, 13th, 16th, 20th, 23rd, 27th, and 30th. 9. Diseases of the Ear in Children: Dr. J. Kerr Love, at 4 P.M. on Wednesdays, Sept. 8th, 15th, 22nd, 29th, and Oct. 6th. 10. Diseases of the Eye: Dr.

A. Maitland Ramsay, at 2 P.M., on Mondays, Wednesdays, and Thursdays, and at 8 P.M., on Tuesdays and Fridays during September. 11. Diseases of the Skin: Dr. Alex. Morton, at 10 A.M. on Wednesdays, Sept. 1st, 8th, 15th, 22nd, and 29th. 12. Diseases of the Throat and Nose: Dr. Robert Fullerton, at 10 A.M. on Tuesdays and Fridays during September. 13. Anæsthetics: Dr. John Donald, at 4 P.M. on Fridays, Sept. 3rd, 10th, 17th, and 24th. 14. Electro-therapeutics: Mr. James R. Riddell, at 9.30 A.M. on Mondays and Thursdays, Sept. 2nd, 6th, 9th, 13th, 16th, 20th, 23rd, and 27th. 15. Pathological Anatomy: Dr. J. H. Teacher at 12 noon, on Tuesdays and Fridays, Sept. 3rd, 7th, 10th, 14th, 17th, 21st, 24th, and 28th. 16. Vaccine Therapy and Opsonic Technique: Mr. J. A. Campbell and Dr. E. T. Fraser at 2 P.M. daily from Sept. 20th to 27th. The fee for attendance at each of the above classes is £1 1*s.*; for any three of them, £2 2*s.* 17. Gynæcology: Dr. W. D. Macfarlane, at 10 A.M. on Tuesdays, Thursdays, and Saturdays. Two courses—first, from Sept. 2nd; second, from Oct. 2nd. Fee for each course, £2 2*s.* 18. Operative Surgery: Mr. Henry Rutherfurd and Mr. James Battersby at 2.30 P.M. daily, beginning Sept. 6th. Fee £3 3*s.* 19. Bacteriology: Mr. David M'Crorie, five days a week for three months, beginning Oct. 4th. Fee, £3 3*s.* Further information can be obtained from Dr. J. M. Thom, the Superintendent.

IRELAND.

Belfast.—At Queen's College a course in clinical pathology, consisting chiefly of practical instruction, has been given hitherto during the summer session, and, should a sufficient number desire to attend, a post-graduate course of practical work in the application of methods of chemical physiology to clinical investigation is also held. A course in clinical pathology or bacteriology is given to graduates, and members of this class have an opportunity of seeing the methods employed in the various investigations carried out in this department for the public health committee of the Belfast corporation in connexion with water-supply, sewage disposal, meat- and milk-supply, and the diagnosis of cases of infectious diseases. Subject to the number of students presenting themselves, arrangements are made for the necessary practical instruction (1) in the chemical laboratories; (2) in the pathological and bacteriological laboratories; and (3) for outdoor sanitary work under the medical officer of health of Belfast. These courses have been approved by the Privy Council in connexion with the degree of M.D. in State Medicine in the University of London. The certificates of these courses are also accepted for the Diploma in Public Health granted by the Queen's University of Belfast, the University of Cambridge, and the various licensing bodies.

Cork.—At University College a post-graduate course has been held hitherto for the Diploma in Public Health, including chemistry, by Professor A. E. Dixon; public health, by Mr. D. Donovan, public health officer of the city of Cork; and bacteriology, by Dr. A. E. Moore. Other professors and lecturers would also give post-graduate courses if requested to do so. No post-graduate courses have up to the present been held at the hospitals.

Dublin.—The post-graduate courses arranged under the auspices of the President and Council of the Royal College of Surgeons in Ireland have hitherto proved a most gratifying success. Two annual courses of post-graduate study are held in June and September respectively. The object of these courses is to render available the whole of the clinical material in the city for the post-graduate student, so that he may see as much as possible during the brief time at his disposal. With this very comprehensive object in view the ten general hospitals of the city are included (Richmond, Jervis-street, Adelaide, St. Vincent's, Dr. Steevens', Mater Misericordiæ, Meath, Mercer's, Royal City of Dublin, and Sir Patrick Dun's), and also the various hospitals which are devoted to "specialities." The opportunities and wealth of material afforded by the latter are well shown by a momentary glance at the list of special subjects and the institutions where they are respectively cultivated: Skin, Adelaide Hospital; Eye and Ear, Royal Victoria Eye and Ear Hospital; Throat and Nose, Mater Misericordiæ Hospital, Adelaide Hospital, and Sir Patrick Dun's Hospital; Gynæcology, Rotunda Hospital, Coombe Hospital, and National Maternity Hospital; X Ray and Light Therapeutics, Meath Hospital and Dr. Steevens' Hospital; Pathology and Bacteriology, Richmond, Whitworth, and Hardwicke Hospitals, Mater Misericordiæ Hospital, Meath Hospital, and School of Surgery, Royal College of Surgeons; Diseases of Children, Orthopædic Hospital, St. Joseph's Hospital, and Harcourt-street Hospital; Lunacy, Richmond District Lunatic Asylum; Anæsthetics, Dental Hospital; Cadaver Operations, Professors at Schools of Surgery, R.C.S.I.; Anatomy, Professor of Anatomy, R.C.S.I.; Sanitary Science, Professor of Hygiene, R.C.S.I. The second course will begin on Monday, Sept. 20th, 1909, and will terminate on Oct. 12th following. Fee for each course, inclusive of all, £5 5*s.* Full details regarding the course can be obtained from, and all applications are to be addressed to, the Professor of Anatomy at the Royal College of Surgeons in Ireland. A list of addresses of apartments and hotels, which have agreed to modified rates for pupils while passing through the course, can be obtained by application at the Royal College of Surgeons. It has been decided that in the event of the post-graduate students exceeding a certain number arrangements will be made to divide up the classes into practical working groups.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Sept. 10th, 1831.

CHOLERA.

IN a pamphlet just published by Mr. SEARLE, the author of a paper recently published in THE LANCET, on the nature of the nervous fluid, and now physician to a hospital in Warsaw, we find the following brief account of the attack and progress of the fatal Cholera.

Probably on another occasion, we may bestow a critical notice on this work.

CHOLERA.—ITS SYMPTOMS AND ORDINARY MODE OF ATTACK.

FIRST STAGE.—The invasion of cholera most frequently takes place in the night or towards morning. The patient is usually suddenly seized with giddiness, windy rumbling in the bowels, and purging; or the purging with a sense of weakness, fulness, and oppression at the præcordia; and symptoms of indigestion have been of some hours or even days' duration. These are followed by vomiting, which, with the evacuations from the bowels, soon assumes a seromucous or barley-water-like appearance. Great prostration of strength follows, and generally tremors or twitchings, with pain and numbness or cramps in the extremities. A dusky sunken countenance, ringing noise in the ears, or deafness, subdued voice, cold damp skin, and feeble pulse, become now very constant and characteristic symptoms.

SECOND STAGE.—*Of Excitement.*—At this period of the complaint, efforts of the system appear to be made to bring about febrile excitement, and which is accomplished under proper treatment; but otherwise the partial excitement of inflammation only takes place, when, from the sense of præcordial oppression, heat becomes developed in the part, and the patient complains of inward burning attended with great thirst, and an insatiable desire for cold water. The irritability of the stomach is now usually increased, and there is often extreme restlessness. The pulse too becomes sharp and more frequent; and the trunk and head exhibit an increase of temperature, while the extremities mostly continue cold and in general damp. With the development of this partial excitement, tonic spasm or cramps, if they have not previously taken place, but too frequently follow:—commencing with the feet and legs, and gradually increasing, they often extend to the upper extremities; and occasionally involve the muscles of the belly and chest.* The exhausting influence of these spasms, or sense of internal anguish, is followed by collapse:—or this state succeeds to the first stage, without the development of heat and the stage of excitement. Or in weakly persons the latter is but feebly developed,—the sickness of stomach, pain at the præcordia, and desire for cold water, only existing.

THIRD STAGE.—*Of Collapse.*—On this taking place, the stomach and bowels, which continued before irritable, retain whatever is administered, either by mouth or clyster; save that an involuntary oozing in general takes place from the bowels; the spasms cease, the extremities are livid, the skin

is covered with cold sweat, and the fingers are shrivelled; the eyes are suffused with blood, or covered with a dense film, and in general half open with the whites turned up, and the countenance death-like: coma and dyspnœa ensue, and life gradually leaves its frail tenement, occasionally in ten or twelve, but generally within eight-and-forty hours from the period of invasion.

Should, however, remedial means have been timely and judiciously employed, as I have before observed, the first stage is gradually succeeded by the excitement of fever; developing, however, but too frequently, the inflammation of some vital organ in which predisposition existed, or susceptibility of structure disposes to be in this way attacked: the bowels and brain are the most obnoxious to this effect; but the lungs are not unliable to be affected.

The above will be found to present a faithful and striking picture of the disease in its more frequent and ordinary forms: and of the symptoms, which we have divided into stages, in the order of their succession; but varieties do occasionally present themselves, though, as it is justly observed in the Madras Medical Report on this subject, "These varieties are not observable so much in individual cases as in what may be termed local epidemic visitations."

* Spasms, however, are by no means so frequent as I saw them in India, and cramps I think much less severe.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8147 births and 4066 deaths were registered during the week ending Sept. 4th. The annual rate of mortality in these towns, which had been equal to 11·5, 11·8, and 12·9 per 1000 in the three preceding weeks, was again 12·9 in the week under notice. During the first nine weeks of the current quarter the annual death-rate in these towns, however, averaged only 11·6 per 1000, and the rate in London during the same period did not exceed 11·1 per 1000. The lowest annual rates of mortality recorded in the 76 towns last week were 3·8 in Hornsey, 4·8 in Burton-on-Trent, 4·9 in Aston Manor, 5·3 in Walthamstow, and 5·9 in Wallasey; the rates in the other towns ranged upwards, however, to 17·8 in Liverpool, 18·1 in St. Helens, 18·4 in Nottingham, 18·7 in Tynemouth, and 28·1 in Swansea. In London the recorded death-rate last week was equal to 12·4 per 1000. The 4066 deaths in the 76 towns last week nearly agreed with the number returned in the preceding week, and included 768 which were referred to the principal epidemic diseases, against numbers increasing from 314 to 853 in the six preceding weeks; of these 768 deaths, 602 resulted from diarrhœa, 65 from whooping-cough, 35 from measles, 33 from diphtheria, 17 from scarlet fever, and 16 from "fever" (principally enteric), but not one from small-pox. The 768 deaths from these epidemic diseases last week were equal to an annual rate of 2·4 per 1000, against rates increasing from 1·0 to 2·7 in the five previous weeks. No death from any of these epidemic diseases was registered last week in Hornsey, Brighton, Ipswich, Burton-on-Trent, Wallasey, Barrow-in-Furness, York, and Stockton-on-Tees; the annual death-rates therefrom, however, ranged upwards to 5·7 in Grimsby, 5·8 in Rhondda, 6·3 in Devonport, and 9·0 in Swansea. The deaths attributed to diarrhœa in the 76 towns, which had increased from 49 to 680 in the nine preceding weeks, fell last week to 602, and caused annual death-rates ranging upwards to 5·0 in Rhondda, 5·3 in Bootle, 5·7 in Grimsby, 6·3 in Devonport, and 6·9 in Swansea. The 65 deaths from whooping-cough showed an increase upon the numbers returned in recent weeks, the highest death-rates from this disease being 1·1 in Cardiff and in Swansea, 1·2 in Derby, 1·3 in Coventry, and 1·6 in St. Helens. The 35 fatal cases of measles, however, showed a further considerable decline from recent weekly numbers, although they caused death-rates equal to 1·1 in Swansea and 2·7 in Newport (Mon). The 33 deaths from diphtheria showed an increase of four over the preceding week; nine were recorded in London, four in Wallasey, three in Leeds, and two in Salford. The 17 fatal cases of scarlet fever showed a decline of 13 from the number in the previous week, and included three in Salford and two in London. 16 deaths were last week referred to "fever," showing an increase of nine on the preceding week. The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had declined from 2737 to 2347 in the seven preceding weeks, rose slightly to 2377 at the end of last week; 349 new cases of this disease were admitted to these hospitals during last week, against 245 and 284 in the two preceding weeks. Of the 1149 deaths registered in London last week, 103 were referred to pneumonia and other diseases of the respiratory system, and were 21 below the corrected average number in the corresponding period of the five years 1904–08. The causes of 33, or 0·8 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death registered during last week were duly certified in Leeds, Sheffield, Bristol, West Ham, Bradford, Newcastle-on-Tyne, Hull, Nottingham, Leicester, and Salford, and in 44 smaller towns; the 33 uncertified causes of death in the 76 towns included five in Birmingham, five in Liverpool, and two each in Coventry, Manchester, and Preston.

HEALTH OF SCOTCH TOWNS.

In eight of the principal Scotch towns 872 births and 494 deaths were registered during the week ending Sept. 4th. The annual rate of mortality in these towns, which had been equal to 12·0 and 12·7 in the two preceding weeks, further rose to 13·8 in the week under notice. During the first nine weeks of the current quarter the death-rate in these Scotch towns averaged 12·5 per 1000, and exceeded by 0·9 the mean rate during the same period in the 76 large English towns. The death-rates last week in these Scotch towns ranged from 10·8 in Paisley to 14·4 in Greenock and 16·3 in Dundee. The 494 deaths from all causes in the eight towns showed an increase of 40 upon the number in the previous week, and included 71 which were referred to the principal epidemic diseases, against 59 and 64 in the two preceding weeks. These 71 deaths were equal to an annual rate of 2·0 per 1000, which was 0·4 below the mean rate from the same diseases last week in the 76 English towns. Of the 71 deaths from these diseases, 37 resulted from diarrhœa, 11 from diphtheria, ten from whooping-cough, six from scarlet fever, four from measles, and three from "fever," but not one from small-pox. The fatal cases of diarrhœa, which had been 26 and 47 in the two preceding weeks, fell to 37 last week, and included 24 in Glasgow, six in Dundee, and three in Edinburgh. The deaths from diphtheria, which had been ten and two in the two preceding weeks, rose last week to 11; six deaths were recorded in Glasgow and two in Edinburgh. The ten fatal cases of whooping-cough showed an increase over the two preceding weeks, and included five deaths in Edinburgh and two in Aberdeen. The six deaths from scarlet fever and the four deaths from measles both showed an increase over the preceding week, and included three deaths from scarlet fever in Glasgow and two in Dundee. Two of the four deaths from measles were recorded in Paisley. Of the three deaths from "fever," one each certified as cerebro-spinal meningitis occurred both in Glasgow and in Aberdeen. The deaths referred to diseases of the respiratory organs in these eight Scotch towns, which had been 48, 39, and 45 in the three preceding weeks, were again 45 last week, but were 12 below the number in the corresponding week of last year. The deaths in these towns last week included 17 which were referred to different forms of violence, of which seven occurred in Edinburgh, four in Glasgow, and two each in Dundee and in Perth. The causes of 14, or 2·8 per cent., of the deaths in the eight towns last week were not certified; in the 76 English towns the proportion of uncertified deaths did not exceed 0·8 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 19·8 and 20·4 per 1000 in the two preceding weeks, fell to 19·0 in the week ending Sept. 4th. During the first nine weeks of the current quarter the death-rate in the city averaged 16·9 per 1000, whereas the mean rate during the same period did not exceed 11·1 in London and 12·4 in Edinburgh. The 145 deaths of Dublin residents registered during last week showed a decline of six upon the number in the preceding week,

and included 25 which were referred to the principal epidemic diseases, against 23 and 37 in the two previous weeks. These 25 deaths were equal to an annual rate of 3·3 per 1000, the death-rate from the same diseases last week being but 2·0 in London and 1·8 in Edinburgh. Of the 25 deaths from these epidemic diseases in Dublin, 20 resulted from diarrhœa, three from diphtheria and two from scarlet fever, but not one either from measles, whooping-cough, "fever," or small-pox. Of the 145 deaths at all ages, 44 were of infants under one year of age, and 30 of persons aged upwards of 60 years. Six inquest cases and seven deaths from violence were registered during the week, and 57, or 39·3 per cent., of the deaths occurred in public institutions. The causes of two, or 1·4 per cent., of the deaths in Dublin last week were not certified either by a registered medical practitioner or by a coroner; in London the causes of all but one of the 1149 deaths were duly certified, while the proportion of uncertified causes in Edinburgh was equal to 5·2 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Staff-Surgeons: R. T. Gilmour to the *Topaze;* H. P. Jones to the *Essex*, on completing; W. G. Westcott to the *Forth;* P. F. Alderson to the *Excellent*, additional, for the *Revenge;* H. J. Chater to the *Euryalus;* and H. L. Norris to the *Arrogant*, on recommissioning. Surgeons: J. McCutcheon to the *Essex*, on completing; A. C. Wilson to the *Topaze*, additional, for the *Hecla;* T. R. L. Jones to the *Doris*, on completing; and F. R. Featherstone to the *Racer*, additional, for Royal Naval College, Osborne.

Fleet-Surgeon Samuel William Vasey has been placed on the retired list, with permission to assume the rank of Deputy-Inspector-General of Hospitals and Fleets (dated Sept. 1st, 1909). Fleet-Surgeon Vasey has been serving at Devonport Dockyard since January, 1908. Becoming qualified as M.R.C.S. Eng. and L.R.C.P. Lond. in 1877 and 1878 respectively, he entered the Royal Navy as surgeon in June, 1878, became staff-surgeon in June, 1890, and was promoted to be fleet-surgeon in December, 1894. As surgeon he landed with the Naval Brigade of the *Boadicea* during the Zulu war of 1879, receiving the Zulu medal and clasps. He was also present at the destruction of Batonga on the West Coast of Africa in 1880, and was surgeon of the *Seagull* during the Egyptian war, receiving the Egyptian medal and the Khedive's bronze star.

ROYAL ARMY MEDICAL CORPS.

Major William S. Harrison, from an Assistant Professor in the Royal Army Medical College, to be a Professor, vice Lieutenant-Colonel R. J. S. Simpson, C.M.G. (dated August 22nd, 1909).

Captain James C. Kennedy to be an Assistant Professor in the Royal Army Medical College, vice Major W. S. Harrison (dated August 22nd, 1909).

Lieutenant-Colonel R. J. S. Simpson, C.M.G., late professor of tropical medicine at the Royal Army Medical College, has taken up his duties as medical officer, London District, with effect from August 22nd.

Major Thomas Henry Matthews Clarke, C.M.G., D.S.O., has been appointed medical inspector of recruits, Southern Command, in the place of Lieutenant-Colonel G. G. Adams, whose period of service has expired.

Lieutenant-Colonel Reynolds P. Hetherington, half-pay list, is placed on retired pay (dated Sept. 1st, 1909).

Lieutenant Alan C. Vidal to be Captain (dated August 29th, 1909).

Captain L. Cotterill has assumed medical charge of the staff and departments at Edinburgh.

INDIAN MEDICAL SERVICE.

Colonel F. B. Maclean, late A.M.S., has been transferred from Secunderabad to Meerut as officiating Principal Medical Officer, vice Colonel O. E. P. Lloyd, V.C. Lieutenant W. E. Brierley has been appointed a Specialist in Advanced Operative Surgery, 7th (Meerut) Division. Major B. G. Seton, secretary to the Director-General of the Indian Medical Service at Simla, has taken over the honorary secretaryship of the Pasteur Institute. Lieutenant-Colonel F. J. Drury has been appointed to officiate as Principal, Calcutta Medical College, vice Lieutenant-Colonel G. F. A. Harris. Major D. H. Graves has been appointed to the substantive medical charge of the 72nd Punjabis. Captain H. S. Matson has been appointed to the substantive medical charge of the 87th Punjabis. Major B. J. Inniss has been appointed to the command of the Station Hospital, Delhi.

Officers of the Indian Medical Service who subscribe to the Indian Military Service Family Pension will in future do so under the same conditions as officers of the Indian Army—i.e., their classification will be regulated according to length of service, instead of according to rank, as follows: Surgeon-generals will be allowed to subscribe in Class 1 as hitherto; Class 2, officers of 20 years' service; Class 3, officers of 12 years' service; Class 4, officers of six years' service; Class 5, officers of less than six years' service. No existing subscriber will be reduced to a lower class than that in which he now subscribes.

TERRITORIAL FORCE.

Royal Engineers (Army Troops).

Northern Command Telegraph Companies: Surgeon-Captain Joseph Holmes, from the 2nd (Leeds) Yorkshire (West Riding) Royal Engineers (Volunteers), to be Surgeon-Captain, with precedence as in the Volunteer Force (dated April 1st, 1908).

Infantry.

6th Battalion, The Manchester Regiment: Surgeon-Major George H. Darwin resigns his commission, and is granted permission to retain his rank and to wear the prescribed uniform (dated July 12th, 1909).

Royal Army Medical Corps.

Colonel (Honorary Captain in the Army) Charles A. MacMunn, Administrative Medical Officer, North Midland Territorial Division, resigns his commission, and is granted permission to retain his rank and to wear the prescribed uniform (dated April 19th, 1909).

2nd West Lancashire Field Ambulance: Lieutenant Cecil L. Williamson resigns his commission (dated July 1st, 1909).

3rd London (City of London) Field Ambulance: Captain William S. Sharpe to be Major (dated Jan. 11th, 1909).

2nd Northumbrian Field Ambulance: Lieutenant George R. Ellis to be supernumerary to the establishment (dated May 1st, 1909).

Welsh Border Mounted Brigade Field Ambulance: Lieutenant Douglas Catterall Leyland Orton, from the List of Officers attached to Units other than Medical Units, to be Lieutenant (dated July 9th, 1909).

1st South Midland Field Ambulance: Captain Cyril H. Howkins to be Major (dated June 4th, 1909).

For Attachment to Units other than Medical Units.—Lieutenant John Aldington Gibb, from the 1st Home Counties Field Ambulance, Royal Army Medical Corps, to be Lieutenant (dated March 29th, 1909). Joseph Douglas Wells to be Lieutenant (dated August 11th, 1909). The undermentioned officers to be supernumerary to the establishment: Captain Edward R. Williams (dated April 1st; 1908); Captain Hugh N. A. Taylor (dated April 1st, 1908), Lieutenant David A. Hughes (dated April 1st, 1908); Lieutenant Alexander Dick (dated Dec. 2nd, 1908); Captain Louis P. Demetriadi to be Major (dated June 19th, 1909). Surgeon-Lieutenant Ashley Bird, from the 2nd Glamorganshire Royal Garrison Artillery (Volunteers), to be Lieutenant, with precedence as in the Volunteer Force (dated April 1st, 1908).

MILITIA.

The Royal Militia of the Island of Jersey: Surgeon-Lieutenant Charles A. Bois to be Surgeon-Captain (dated August 10th, 1909).

DEATHS IN THE SERVICES.

Surgeon-Major Lucas George Hooper, A.M.D. (retired), on August 25th, at St. Helier, Jersey, aged 77 years. He joined the service as assistant surgeon on April 28th, 1854, and served in the Crimea with the 10th Hussars from September to November, 1854, when he was sent to Scutari in charge of wounded. Returning to the Crimea in the following spring, he was present at the siege and fall of Sebastopol (medal with clasp and Turkish medal). He was promoted to be surgeon on June 20th, 1865, and retired on Feb. 15th, 1877.

Correspondence.

"Audi alteram partem."

AN EMPLOYMENT EXCHANGE FOR UNIVERSITY GRADUATES.

To the Editor of THE LANCET.

SIR,—It may be of interest to many of your readers to know that an appointments board has been constituted by the University of London. The terms of reference to the board are "to assist graduates and students of the University in obtaining appointments, and to coördinate and supplement the work done by the schools and institutions of the University with this object." I am directed by the board to express their hope that, through the medium of the press, the objects of the board may be brought to the notice of graduates as well as of those who are able and willing to assist in furthering the work of the board, the aim of which is to encourage the selection of university men for all posts in the work of which the possession of a university training on scientific methods is an advantage. They wish to assist graduates to find employment, and to assist employers to find, in the university ranks, suitable men for vacancies.

It would assist the board if, whenever your readers know of any vacant appointments suitable for university men, they would communicate with the secretary of the board, so that he may put forward selected candidates. In this way the work of the board as an employment exchange would be greatly helped. I am, Sir, yours faithfully,

HENRY A. MIERS, Principal.

University of London, South Kensington, S.W., Sept. 6th, 1909.

LIFE ASSURANCE AND ITS RELATION TO SOME PHYSIOLOGICAL CONDITIONS OF ADOLESCENCE.

To the Editor of THE LANCET.

SIR,—It is a prevailing custom for bank directors to insist upon an assurance of the lives of their clerks when they enter on their duties, which usually takes place during adolescence. This assurance is therefore of vital importance to a bank clerk, inasmuch as his appointment is contingent upon his acceptance by an assurance company. It is incumbent on medical examiners, therefore, not only to ascertain the facts relating to the applicant for assurance, but also to interpret accurately their significance in order to prevent grave injury being done to these lads on the threshold of their career, as well as, while securing suitable, to protect assurance companies from unsuitable, "lives."

This question involves a large class of "lives" at a most critical time to them. I shall explain myself best by giving the requisite details of the medical examination of a lad, aged 18 years, who was directed to present himself to me for this purpose. I will be as brief as possible.

1. I discovered that he had a trace of sugar in his urine. I regret that I am unable to give the specific gravity of the urine, as I made my notes only on the report, but it was somewhere between 1025 and 1030. I therefore postponed his acceptance for some weeks for further investigation. He admitted that he was fond of sugar, and that he had eaten a considerable quantity of chocolate the day before. His urine was subsequently examined about ten times, every day consecutively for a week, and there was never a trace found on any other occasion. Now such an amount of sugar is common, or perhaps I should say "not uncommon," in lads of this age who are partial to sweets and sugar, and how few are not. Only a week or two before I found a similar trace under identical circumstances, and was able notwithstanding to effect an assurance on the "life."

2. In addition to this trace of sugar he had a hard thumping action of the heart, a mitral systolic murmur at the apex, and considerably increased arterial tension. In fact, I expected to find the albuminuria of adolescence which is so frequent in this condition of circulation, but there was none. In my report I pointed out that, in my opinion, the trace of sugar and the state of his circulation were physiological and incidental to his age, and I advised the acceptance of his life as "a good average life." It was decided by the directors of the assurance society to add five years to his age for his assurance, to which the bank directors naturally would not accede. Unless, therefore, the lad's life can be accepted at the ordinary rate he has to forfeit his situation.

Some weeks elapsed when he was sent to me by another assurance company, and I again thoroughly examined him. It happened to be on one of those lovely hot days of the first fortnight of this month. He bicycled to see me and he was "all of a glow." His heart's action was as quiet and subdued as could be desired; there was no mitral murmur; and the increased tension of the arteries was non-existent. There could be no question now that the condition of his circulation at the former examinations (for he was sent to me twice) was entirely physiological and not pathological. I have observed it hundreds of times at this age, and have learnt not to regard it as evidence of disease. There was no trace of sugar. I recommended again that he should be accepted as "a good average life," and this was carried out. I feel sure the company transacted "good business" and the candidate secured his necessary object.

I am, Sir, yours faithfully,

CLEMENT DUKES, M.D. Lond., F.R.C.P. Lond.,
Consulting Physician to Rugby School, and Senior Physician to Rugby Hospital.

Rugby, August 23rd, 1909.

HEAD-LIGHTS FOR CARS.

To the Editor of THE LANCET.

SIR,—Most of us who keep a little car for night work, and are content then with a pace of 10 or 12 miles per hour, used to get along with comfort and safety with the ordinary paraffin side-lights. For the last few years this has been impossible owing to two factors. The general use of dazzling acetylene lamps on bicycles and of the still more blinding lamps of the big cars is the first. The second is the tarring of the roads, which renders it impossible to recognise the middle of them without good illumination.

Of course, the first remedy was to get an acetylene head-lamp. This was perfectly satisfactory in use, but required constant attention and meant inevitable delay when called up on a cold winter's night. An electric head-lamp solves the difficulty. As sent out, these lamps are generally fitted with bulbs of 8 or 6-volt capacity. These require two ordinary 4·2-volt accumulators, or at the least, for the latter, three 2·1-volt cells. If the bulb be removed and replaced by a 4-volt one, a very satisfactory light is obtained for moderate speeds, and takes only one battery. An excellent plan is to carry a "Bourdspeed" Hellisen dry battery, and to couple up only three of the cells. This gives a light ample for the speed mentioned and for local work. For longer journeys, where one may be detained after dark, and with a larger car, both lamps may be used. Should one system break down, the other will still be enough for a moderate speed.

The advantage of the dry battery is that if the lamp should only rarely be required it can be relied upon to answer perfectly after many months, and also it is always available as a spare for driving the car. Thus only one battery need be connected up with the engine. This is written in the hope that it will be of use to medical practitioners in the coming winter.

I am, Sir, yours faithfully,

August 30th, 1909. J. B. EMMERSON.

WANTED: STEAM-CAR EXPERIENCES.

To the Editor of THE LANCET.

SIR,—I wonder if any readers of THE LANCET could give me their experience with a "steam" car. One sees constant references to the various petrol cars, but scarcely ever a "steamer" mentioned. My district is a very hilly one, and I have a notion that an 8–10 h.p. steam car might give me more power than a similar powered petrol car.

I am, Sir, yours faithfully,

Cumberland, August 31st, 1909. HILL COUNTRY.

THE EARLY SIGNS OF RHEUMATISM OF THE HEART.

To the Editor of THE LANCET.

SIR,—Dr. A. M. Gossage's article in your issue of August 21st, under the above title, gave me great pleasure. It was very gratifying to find my work on rheumatic myocarditis so thoroughly discussed by a critic of Dr. Gossage's ability, still more to find that he is in nearly all points agreed with me and that the points of difference are apparent rather than real. They are, I fear, due to the lack of explicitness in the article which I wrote and which Dr. Gossage has criticised. Two of these, at any rate, can be cleared up by an explanation from me.

Dr. Gossage says that I exaggerate the importance of "myocarditis." This is because I use the term in its widest sense, while he restricts it to the truly inflammatory interstitial nodules, my description of which he quotes at some length. I include in the term not only these nodules but also the degenerative changes in the muscle cells which accompany them, and which are described fairly fully in the paper under discussion. In that paper he will find the following sentences (p. 38) in a paragraph summarising the evolution of rheumatic myocarditis. "Poisonous substances are disseminated from these foci (i.e., the nodules) throughout the cardiac muscle, upon which they exert a deleterious influence. This reveals itself in ventricular dilatation ..... while microscopical proof of the same poison is yielded by the presence of fat within the cells." If Dr. Gossage will include these among the features of myocarditis he will, I think, find that we are in agreement as to its importance. A purist may object to the inclusion of degenerative changes under a term which primarily stands for an inflammation, but it is a common and convenient usage (e.g., in nephritis, myelitis). It may be asked why the nodules are so important if their immediate effect upon the cardiac functions is so small. Because they afford strong evidence of an actual invasion of the muscular wall of the heart by micro-organisms in every case of rheumatic carditis, a fact of great importance, as I hope to show in the next paragraph.

Dr. Gossage suggests that the changes in the muscle cells (which we agree in holding responsible for ventricular dilatation as well as for most of the physical signs and many of the deaths in rheumatic carditis in childhood) may be produced entirely by a rheumatic toxin manufactured by bacteria at a distance from the heart, as in the superficially analogous case of diphtheria. I say "superficially" because while diphtheria is an intense toxæmia rheumatism is in all probability a not very toxic bacteriæmia. His theory is perhaps true for the transient cardiac dilatation seen in adults with rheumatic fever, but I do not think it can be considered equally important with actual invasion of the cardiac muscle by micro-organisms, as evidenced by nodules, for the following reasons. First, there are not more than one or two fatal cases of myocardial poisoning in rheumatism, without cardiac inflammation, on record in spite of the fact that rheumatic carditis is not an uncommon cause of death; and even in these one or two I suspect that a careful examination of serial sections might have discovered nodules. Second, if the micro-organisms of rheumatism are (as the nodules suggest) actually encamped in the myocardial tissues, the muscle cells will bear the brunt not only of toxins carried to them in a dilute condition by the general blood stream, but also of relatively concentrated toxins carried to them from neighbouring myocardial nodules by the lymph stream. I do not wish to underrate the possible importance of blood-borne toxins in the rheumatic infection; but it is, I believe, a general infection rather than a localised infection diffusing toxins.

As to the way in which rheumatic myocarditis leads to mitral incompetence, I must thank Dr. Gossage for his valuable and explicit addendum to my article. I am afraid, however, that he over-estimates the degree of concentration of the nodules upon the neighbourhood of the mitral ring. It is difficult to speak of this with confidence as I have only examined 15 hearts carefully (seven since my article was published), but my impression is that whereas the nodules are, as a rule, but few in the right ventricle, the septum, and the papillary muscles, and absent from the auricles, they are scattered fairly evenly through the wall of the left ventricle with some predilection for its basal rings and the apex. This I stated in the paper alluded to. One remaining point of difference, as to the origin of apical mid-diastolic murmurs in rheumatic carditis, vanishes in the light of the explanations given in the first and third paragraphs of this reply.

In conclusion, I must thank Dr. Gossage for his careful consideration of my paper and the courteous criticism to which I have in this letter replied briefly. His explicit remarks on the production of mitral regurgitation by depression of tonicity in the mitral sphincter are an interesting expansion of the ideas which in my paper in the *Quarterly Journal of Medicine* for October, 1908, I sought to express.

I am, Sir, yours faithfully,

Clifton, Bristol, August 23rd, 1909. CAREY COOMBS.

A DISCLAIMER.

To the Editor of THE LANCET.

SIR,—The medical board of this hospital at their first meeting since August 30th have desired me to state that the reported interview with the director of the serum-therapy department of the hospital, published under the heading "New Consumption Treatment," in the *Daily Mail* of August 30th, was unauthorised by the medical staff and does not accurately represent the proposed work of the serum-therapy department of the hospital.

I am, Sir, yours faithfully,

W. J. MORTON, Secretary.

The Mount Vernon Hospital for Consumption and Diseases of the Chest, Hampstead and Northwood, Sept. 7th, 1909.

DERMATITIS DUE TO THE USE OF METOL.

To the Editor of THE LANCET.

SIR,—The use of the generally accepted formulæ of the metol and hydroquinone developer in combination with sulphite of sodium is held in high place amongst all photographers as a rapid means to an end with clear, definite results. And my reason for approaching the subject is not to criticise the advantage of the developer over many others for producing fine resulting negatives, but rather to utter a word of warning to those who use it without due precautions.

In the early summer I had occasion to develop a batch of negatives of scenes taken during an exceptional spell of hoar frost, and as most of the latter were under-exposed owing to climatic conditions I proceeded to intensify them in the usual way with perchloride of mercury and liquor ammoniæ. About two days after I had finished the latter process I found that all the ends of the fingers of my right hand were intensely inflamed, tender, and swollen, and with an amount of local anæsthesia corresponding to the areas of immersion. This at the time I attributed to the action of the strong ammonia solution. On the following day a certain amount of onychia of the third finger manifested itself with an exudation of serum at the base of the nail which resolved into crusts. Ultimately during the next few days all the skin came off these affected fingers, shrinkage of the tissues occurred, and sensation returned. A few weeks now passed before I had any occasion to require the use of any developer, but about a month ago on resorting to the same combination and not having the opportunity of washing freely after its use I was attacked next day by urticarial eruptions which appeared wherever the solution had become applied. The irritation was even more severe than in the first attack, showing probably a cumulative action in the system. The skin of the thumb, first two fingers, and fourth finger was intensely tender and swollen for two or three days, tingling and burning as in a case of chilblains. Since this has happened I have heard of three other cases similarly affected; two are connected with a firm of photographic printers and another who has been ill through the same cause. In the two above mentioned the skin came off all the fingers and left open sores.

Even in mild cases it takes about a fortnight before the affected parts recover from the tumefaction and sensation is fully re-established. In conclusion, I do not mean to imply that all persons are affected in the same way. But to those who have experienced any of the symptoms described after having used metol developer or metol in combination with other substances, I think it necessary to give this advice—

namely, to use rubber finger-stalls and wash freely to eliminate all traces from the hands.

I may add that metol is the sulphate of mono-methyl-para-amido-phenol $(C_6H_4OH\ NHCH_3p)_2\ H_2SO_4$ and has an equivalent weight of 344.

I am, Sir, yours faithfully,

A. B. NORTHCOTE, M.D. Edin.

Monkgate, York, Sept. 2nd, 1909.

*** Our correspondent's experience is not novel, but his warning will be useful. In "Chemistry for Photographers," by C. F. Townsend, the occasionally inflammatory action of metol is mentioned.—ED. L.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Lancashire Asylums.

AT a meeting of the Lancashire Asylums Board, held on August 26th, the chairman, Mr. N. Helme, M.P., expressed pleasure that the Lunacy Commissioners, in their report, approved of the creation of cheaper building in connexion with existing asylums. The Lancashire board had often urged economy on the Commissioners and the Home Secretary. This had been kept in view in certain improvements in the Prestwich Asylum and some other Lancashire asylums. Mr. Helme stated that out of the 128,787 patients in the asylums of the country, 11,222 were in those of Lancashire. This, no doubt, includes those detained unfortunately in workhouses. A new annexe at Whittingham Asylum is to accommodate 700 patients, and the Prestwich asylum committee is authorised to prepare plans and estimates for the building of an infirmary to accommodate 100 female patients, and of two villa blocks to provide separate accommodation for 50 private patients of each sex. In view of the alarming increase in the cost of provision for our constantly growing army of lunatics, it is well to know, at such a time as this, that some of the authorities favour the exercise of a reasonable economy. Dr. F. Perceval, the medical superintendent of the Prestwich Asylum, in his annual report to the Lancashire Asylums Board, says with regard to recurrences of lunacy that if patients were able to go for a time to convalescent homes near the sea many such cases would be avoided. Dr. J. C. Gemmel, the superintendent of Whittingham Asylum, in accordance with the views of many others, says: "It may be stated in general terms that many criminals belong to the degenerate and mentally defective class and are often insane when convicted, and that as a matter of routine certain types of prisoners, especially habitual offenders, should be medically examined." With regard to suicides, he thinks the predominant factors are mainly transmitted insanity or nervous irritability, and adds that attempts should be more seriously viewed than they are, and if there is any hereditary taint in the subjects a medical examination should be made, followed if necessary by life-long detention under control.

Scarlet Fever.

There is a serious outbreak of scarlet fever at Winsford, and a special meeting of the urban council was held on August 27th, as its spread is somewhat alarming. Since the last meeting of the council 45 additional cases had occurred, and it was reported that the hospital accommodation was exhausted. A nurse was appointed to help in securing the isolation of patients at their homes, and it was decided also to offer a local disused hospital to the Mid-Cheshire Isolation Hospital authority.

Manchester Baths.

On August 26th the Lord Mayor of Manchester formally opened new public baths in Bradford in Manchester. They have been built at a cost of £40,000. In returning thanks to the Lord Mayor the chairman of the baths committee said that for 1½*d.* an hour the women of the neighbourhood could do their washing at the washhouses connected with the baths. "There would be no need in the future to save up for a wringing machine, no need to have a boiler in the house, no need to wait for fine weather, for a fine or wet day was all the same at the corporation washhouses so far as drying clothes was concerned." This is none too roseate a view of the advantages of the washhouses in a working-class neighbourhood. It will be well, however, if the jerry builders do not take these hints too literally and build cottages without boilers, which are needed for other than washing-day purposes. In the district there are 12 elementary schools attended by about 13,000 children. Last month, when the holidays were taking place, the baths were thrown open to the children on two days a week and were used, it was said, by 130,000 children, meaning, no doubt, that there were that number of attendances. This, of course, refers to the swimming baths. The building covers an area of 3173 square yards, and there are first- and second-class, male and female, swimming baths, 65 wash baths, a public washhouse, a boiler house, pump and filter rooms, an aerating chamber, and an establishment laundry. Great efforts are made to teach the children to swim, and life-saving is also taught, and during the last year 380 people had qualified for, and had received, certificates from the Royal National Life-Saving Society. That the teaching of life-saving is of great value is well illustrated by occurrences on many of our coasts just now, for drowning fatalities appear to be unusually numerous.

University of Manchester.

The medical session will be inaugurated by an address delivered on Friday, Oct. 1st, at 4.30 P.M., by Professor George R. Murray in the Medical School on the Development of Modern Medical Education.

Sept. 6th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

School Medical Officers in Glasgow.

IN the columns of THE LANCET of Sept. 4th reference was made to a meeting of medical practitioners held in Glasgow at which it was agreed to send a deputation to meet the Glasgow school board to ask that body to reconsider its decision regarding the remuneration offered to part-time medical officers. The deputation met a committee of the school board last week and pointed out that the board was proposing to pay part-time medical officers 5*s.* 4*d.* per hour, whereas for the same kind of work medical officers elsewhere received a minimum salary of 10*s.* per hour. The deputation also explained to the committee that the Govan school board offered 12*s.* 6*d.* per hour for part-time officers. In reply, the committee told the deputation that it was surprised to see them, because it had thought the board was really doing a service to the medical profession in Glasgow by offering these part-time appointments, and it also hinted that the attitude of the medical practitioners of Glasgow savoured of trade unionism. It was said also that they were not right in assuming that the duties of the part-time officers would be similar to the duties elsewhere, but when asked what these duties would be the committee could not say, as they had not yet been formulated. At another meeting of medical men held on Sept. 3rd in the Faculty Hall the deputation reported on the result of the conference with the school board. Thereupon the meeting adopted a resolution expressing regret at the attitude of the school board and advising all applicants for these posts to withdraw their applications. It was also agreed to send a circular to all medical practitioners in Glasgow and district stating that in the opinion of the meeting any practitioner accepting the terms offered by the Glasgow school board for part-time medical officers would be acting contrary to the dignity of the profession.

Perth School Board: Medical Officer's Report.

The second annual report of Dr. C. Stuart, medical officer under the Perth School Board, states that little or no improvement has taken place with regard to the care of the teeth. Tooth brushes had been introduced into one of the schools, but the teachers found it impossible to carry out tooth drill, which was much to be regretted, as attention to the teeth would prolong the life and usefulness of many persons who now break down in middle life through gastric and other disorders due to defective nutrition. The cleanliness of the children appeared to be much greater than last year, and many of the girls had now their hair cut short. In no case had internal medicines been administered to the children. Exclusion from school was not always helpful in

securing treatment, as in many cases the children were made to be useful at home, and stronger measures must be applied. Instances were common of children with infectious heads certified as unfit for school carrying milk and other food through the town. As regards the physique of the individual schools, those on the outskirts of the town easily took the first place. The difference between the standard weight and the Perth weight at five and six years was very slight, but as age increased so also did the difference, and at the age of 13 it was very marked, no less than 80 per cent. of the pupils in the elementary schools aged 13 and under being considerably below the average. The circumstance that deterioration increased the longer the child was at school led one to ask if the child was overworked, or had the standard weight been fixed too high. Both he believed to be the case. He did not say that the children were overworked in school, but many of them had to work in the mornings before going to school, and again in the evenings, which made too long a day for them.

University of Aberdeen: Appointment to the Chair of Surgery.

The King, on the recommendation of the Secretary for Scotland, has approved of the appointment of Mr. John Marnoch, M.A., M.B., C.M. Aberd., surgeon to, and lecturer on clinical surgery at, the Aberdeen Royal Infirmary, to be Regius Professor of Surgery in the University of Aberdeen, in succession to Professor Alexander Ogston, who has resigned as from Sept. 30th. Mr. Marnoch, who is 42 years of age, is a native of Aberdeen. He was educated at the Grammar School, Old Aberdeen, King's College, and Marischal College, Aberdeen, where he graduated in 1891 "with highest academical honours." During his medical curriculum he gained numerous distinctions and prizes, including the first prize and medal in the senior class of systematic surgery and a medal in operative surgery. After graduation he acted as resident medical officer in the Aberdeen Royal Infirmary, and for six months in a similar capacity in the Royal Aberdeen Hospital for Sick Children. He also acted for six months as assistant at the Aberdeen Eye Institution. In 1892 he commenced practice in Aberdeen and in the same year was appointed assistant surgeon to the Aberdeen Royal Infirmary. For several years he held the post of assistant to the professor of physiology in the University. On vacating this post he carried out an experimental research in the pathological department in relation to the etiology of cancer. The results of this research were published in THE LANCET of 1901. In 1900 he was appointed surgeon to, and lecturer on clinical surgery at, the Aberdeen Infirmary, with the charge of 40 beds, and since this appointment he has performed much good operative work, and made some interesting contributions to medical literature.

Sept. 7th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Dublin Hospitals: Report of the Board of Superintendence.

THE fifty-first annual report of the Board of Superintendence of the Dublin Hospitals, which has recently been issued, shows that the advances made in the treatment of the extern patients of our institutions cannot claim to have kept pace with those applied in case of the intern. Of the Westmorland Lock Hospital—one of the most testing of our institutions surely—we are told that all connected with it "seem to do all they can to make it a success," and that "it is a dreary place from which one comes away depressed." This effect is, of course, inevitable. In Steevens' Hospital "the work goes on well," and the attention bestowed on the out-patient department is styled good compared with that of some of the other institutions. Of the Meath Hospital it is said that the standard of efficiency is high, and it is regretfully noticed that its income is unequal to its requirements. This fact is peculiarly deplorable, as it occupies a unique place in the clinical, scientific, and literary history of Ireland's hospitals. In its wards Robert Graves and William Stokes made the Dublin School of Medicine the foremost clinical school of their generation, and its reputation has been correspondingly maintained in the present generation by the scientific teaching and practice of Sir John William Moore and Sir Lambert Hepenstal Ormsby. Dublin may be proud of the Houses of Industry Hospital, we are told. And it has so far had its merits recognised that the three members of the existing surgical staff have all been raised to the rank of knighthood for special distinction in their respective departments.

Milk Legislation.

The future of Mr. John Burns's Milk and Dairies Bill is the subject of a great deal of discussion, as somewhat similar legislation has been adopted in this country. It does not yet seem quite clear whether Mr. John Burns's Bill is to apply to Ireland, or if there will arise any necessity that it should, having regard to the conditions enforced by the existing legislation. The latest Dairies, Cowsheds, and Milkshops Order is obligatory and has been generally adopted by the rural councils. Mr. Birrell, in a recently published return on the subject, had nothing but praise for the general attitude towards the Order, which had been displayed by the Irish public, dairy farmers, as well as their customers; and it is in no sense unfair to point out that its reception presents a favourable contrast with the action of English councils when called upon to execute a similar Order for more efficient inspection and registration. Under the provisions of the Tuberculosis Act authorities in the urban areas which draw a milk-supply from rural sources are empowered to inspect these sources. This power was conferred in response to a demand made by every urban authority which has paid any attention to the questions associated with the milk-supply. With these two groups of regulations in operation in this country there would appear to be little or no need for the application of the Milk and Dairies Bill to Ireland so far as it is concerned with the safeguarding of the quality of our milk-supply.

Health of Belfast.

At a meeting of the city council, held on Sept. 1st, it was reported that the annual average death-rate of Belfast from all causes, between July 18th and August 21st, was 14·5 per 1000; while it was 1·4 from zymotic diseases, and 4·1 from chest affections. There were 54 deaths from zymotic disease, 70 from phthisis, 35 from pneumonia, and 48 from diseases of the respiratory organs, exclusive of pneumonia. There were 39 cases of diphtheria reported, which is greatly in excess of that in the previous month (14) and in the corresponding period of 1908 (15). But there was only one death from this disease, showing the good results of modern treatment by antitoxin. For the six months ending June 30th, 1908, the number of births in Belfast was 5863, and for the corresponding period in 1909 it was 5774, a decrease of 89. The deaths for the half year ending June, 1908, were 4334, and those ending June, 1909, 3782, a decrease of 552. The deaths from enteric fever in the first half of 1908 were 24, while in the half year of 1909, ending June 30th, they were 5, a decrease of 19. Turning to infantile mortality, there were 159 deaths per 1000 in 1908 and 117 in 1909, a decrease of 42 per 1000, a result largely due to the inauguration and work of the babies' clubs.

The Tuberculosis (Ireland) Prevention Act.

At a meeting of the city council of Belfast, held on Sept. 1st, it was unanimously decided to adopt this Act, Part I. of which was optional, unless adopted by the local authorities. It deals with the compulsory notification of cases of tuberculosis which are a danger to others owing to the infectious nature of the discharge. Belfast has followed the lead of Dublin in adopting the Act, which will come into operation in that city on Nov. 2nd. On Sept. 6th, at the monthly meeting of the Dungannon urban council it was decided unanimously to adopt Part I. of the Act. It is curious to notice that while in Belfast the notification of tuberculosis has been adopted, the hesitancy about doing so was due to the feeling that Part I. of the Act—which has to do with notification—was not sufficiently stringent, the limitations placed on it by the Local Government Board confining notification of tuberculosis within an apparently narrow range and also tying the hands of local authorities in dealing with the cases to be notified. The public health committee of Belfast, before recommending the adoption of notification, which is permissive, received a written assurance from the Local Government Board that the power of supervision of its medical officer of health would not be interfered with. In the south of Ireland objection has been raised not only to compulsory notification but even to the anti-tuberculosis movement in Ireland on the ground that

the scare which it is alleged to have caused is worse even than the disease. In answer to this, the representatives of Messrs. Cook, the tourist agents, in Dublin, London, and in Belfast, have stated that the disposition is distinctly to favour Ireland this year and recent returns are most satisfactory. Further, there was a record attendance this year at the Horse Show in Dublin, and the sale of Irish industries, such as lace and crochet, especially in the United States and Canada, has been increasing during the past six months.

Sept. 7th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The French Association for the Advancement of Science.

IN THE LANCET of Sept. 4th I made in this column a brief reference to the annual congress of the French Association for the Advancement of Science which had been recently held in Lille, and I mentioned that Professor Landouzy of Paris and M. Salomonsen of Copenhagen were the principal speakers at the inaugural meeting. At the next meeting, and also at several subsequent ones, some very interesting communications on the recognition of albumin in the sputum were made by Professor Roger, who described an easy method of ascertaining whether the sputum contained albumin or not. Absence of albumin was a sure indication that the patient was not infected with the tubercle bacillus. M. Salomon and M. Halbron submitted a comparative study of the reactions of the islands of Langerhans in the pancreas and of the lymphoid organs in tuberculosis. M. Salomon and M. Sabaréanu contributed a paper on the Study of the Serum Reaction in Bacillary Tuberculosis. M. Calmette discussed the problem of vaccination against tuberculosis, and called attention to the importance of recognising the disease in the early stages. At this point a variety of miscellaneous subjects were introduced by various speakers—namely, the Significance of Leucocytosis in Tuberculous Patients, by M. Bezançon, M. de Jong and M. de Serbonnes; the Anti-bodies of Tuberculous Disease, by M. Bezançon and M. de Serbonnes; Intestinal Poisons, by M. Falcise; the Use of Radio-therapy in the Treatment of Angioma and "Port Wine Marks," by M. Albert-Weil; the Electrical Treatment of Obesity, by M. Bergonié; and the Therapeutic Applications of Radium and Medico-Legal Questions Relative to this Substance, by M. Foveau de Courmelles. Errors of interpretation in the radiographic examination of supposed fractures were discussed in three papers by various speakers. The first of these was by M. Lucas-Championnière, who said that the question of a fracture ought not to be decided on the evidence of a radiograph unless the appearances were quite distinct; nothing less than a well-defined view of the separated parts (*le trait net de la fissure*) should be relied on as proof of a fracture; radioscopy might be useful in the diagnosis or treatment of a fracture, but its indications were not infallible. M. Mouchet and M. Lamy, who communicated the second paper, expressed similar opinions. The third paper was read by M. Imbert, and a discussion followed. M. Arcelin and M. Rafin communicated a paper on Errors of Interpretation in the Radiographic Examination of the Urinary Tract. They said that three plates were generally required, but one might be sufficient if the patient was thin. The duration of exposure depended on the thickness of the tissues. M. Desplats contributed a statistical synopsis of the results obtained by electric currents of high intensity (*fulguration*). He considered that the results were encouraging in cancer of the face, breast, and neck, but not in cancer of the tongue or the uterus. M. Zimmern recommended caution in deciding on the value of this treatment, saying that there were perhaps a small number of cancers which might by it be made less likely to relapse. M. Broca discussed the treatment of skin diseases and cancer of the skin by the X rays. Professor Wassermann of Berlin read a paper on the Serum Diagnosis of Syphilis. He said that in all maternity hospitals the blood of the placentæ should be examined systematically, and if there was an indication of syphilis the mother ought not to be allowed to take a situation as wet nurse.

Local Peripheral Neuritis Caused by Carbon Bisulphide.

M. Lortat Jacob and M. Sabaréanu at a meeting of the Hospitals' Medical Society on July 30th recorded the case of a young girl who had been employed for five months at an indiarubber balloon factory and had suffered from serious local neuritis limited to the upper limb. They attributed her paralysis to the effects of a local intoxication with carbon bisulphide, and described in detail her sensory troubles and their gradual improvement under treatment.

Sept. 8th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

Outbreak of Enteric Fever on the Milan-Domodossola Line.

THIS much frequented tract of country has just been visited by an epidemic of "ileo-typhoid" fever, numbering already three victims, besides many whose lives are in danger. The population of Busta-Arsizio, one main seat of the outbreak, has risen in alarm, calling on the communal authorities to take immediate measures of isolation and disinfection. Inquiry has elicited the detail that the epidemic was due to the tainted condition of the drinking-water supplied from wells, public and private. Further intelligence from the neighbouring township of Borsano has brought to light the disquieting fact that at least 40 patients suffering from the disease are under treatment in their own houses—not without fatal cases. Justly concerned at the presence of a visitor so unwelcome—sufficient as it is to deter other visitors to whom the region owes much of its prosperity—the authorities are actively engaged in removing the patients from the infected houses, disinfecting the drains, deporting the sewage to the neighbouring fields, and generally taking the "precautions" that should have preceded, not followed, the outbreak. Beginning at Milan itself—the great *entrepôt* of tourist traffic—and all along the many places of interest up to the starting-point of the Simplon line, the record in the matter of drinking-water is by no means good, and infective disease, never wholly absent, has, as in the present instance, its periods of exacerbation. The hotels seem to find it "good business" to encourage their guests to drink one or other of the "acque minerali," always at hand, by keeping the "acqua potabile" under suspicion. This is short-sighted policy, to which the attention of the Association for Promoting the Influx of Foreigners into Italy should be pointedly and peremptorily drawn.

A Form of White Slavery.

Mainly from Southern Italy there is a brisk traffic in the deportation of children of tender years and of both sexes to one or other of the French seaports on the Mediterranean, the little victims being sold by their parents to dealers who, at the port of debarkation, sell them in turn to this or that "impresario" under whom (generally an organ-grinder or a vendor of statuettes and stucco-ware) they make the tour of the European capitals, continental and British. Their fate is a pathetic one, and to ameliorate it, or, better still, to prevent its befalling them, there is a society organised under the ægis of the Italian Embassy at Paris to rescue the little unfortunates and check the traffic at its source. Its success has not yet been commensurate with its activity, one obstacle it has to encounter being the false certificates of birth presented to the authorities when the dealer is challenged to show that they are not under the age required by law. From time to time the most harrowing details of the brutal treatment to which they are subjected find their way into the police-courts. The children are ill-fed, ill-clothed, and mercilessly beaten when they fail to bring back to their cruel task-masters the expected coins, and such stories quicken the efforts in their behalf to a temporary zeal, soon, however, to die down again when the "particolari impressionanti" (sensational details) are forgotten. One remedy to this crying abuse the travelling public can contribute, and that is the withholding of all almsgiving on the street. "You free-handed English and Americans" (I have heard Italian philanthropists say) "keep up this white slave traffic, and, indeed, mendicancy in general, by making it a 'paying business.' If you want to relieve the deserving (who never appear in public) communicate with us. We know whom to help and keep a carefully compiled register of such cases." This is quite a reasonable admonition. But on what deaf ears it falls may be judged from the largess indiscriminately bestowed on the promiscuous mendicancy hanging about the quarters in the

chief Italian cities where the English-speaking world most doth congregate.

Alpine Misadventure.

Even the "Tuscan Switzerland"—that picturesque hill country "watered" (when it flows) by the Lima—seems to emulate its trans-Alpine sister in tempting those who should know better to foolhardy adventure. From Modena I hear that Professor Ciro Chistoni, Director of the Vesuvian Observatory, in essaying the ascent of Mount Cimone for purposes of meteorological observation, has fallen *en route* and fractured a leg. Transported with proper care by his *compagnons de voyage*, reinforced by some shepherds of the mountain, to the Albergo Cimone, he will be under medical surveillance for some six weeks before he can venture out again. Truly "altitudinarianism" has vindicated its right to a place in medico-psychological classification.

Sept. 1st.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

The Hospital for Children at Shishli.

THE Hospital for Children at Shishli, a district of the metropolis considerably beyond the European quarter Pera, which was created by the deposed Sultan Abdul Hamid and maintained in a very efficient manner by the Civil List, has now been assigned to the care and upkeep of the city municipality. It is incumbent at present upon the Ministry of Finance to see that all the needs and wants of the hospital are adequately supplied. The Chamber of Deputies last week received the Government's budget for this establishment, which amounts to 42,100 piastres per month (£1 equals 120 piastres). The total sum of 444,856 piastres, which represents the expenditure of the hospital from April 14th of last year to the end of February of the year to come, was granted by the Chamber without any discussion. Thus this admirable institution, which is doing such a great volume of excellent work, has now been put upon a permanent basis of efficiency and maintenance. The municipality has offered 2000 Turkish liras for the extension of hospital accommodation for children.

The Medical Faculty.

Up to the present there have existed in Constantinople two separate medical schools—namely, the Civil Medical School at Stamboul and the Military Medical School at Haidar Pasha on the Asiatic coast. There was always a kind of rivalry between the two institutions, and this frequently led to disagreeable incidents, greatly hampering the course of medical education. It has now been decided to unite the two schools under the name of the Ottoman Medical Faculty of Constantinople. This step will, it is expected, greatly enhance medical progress in the capital and the whole country. The lectures will be given in the Medical School at Haidar Pasha, where there is ample space to accommodate about a thousand students. The Stamboul Medical School buildings will be converted into premises for a higher pharmaceutical establishment, and its cliniques into a hospital for women.

Some Old Sanitary Grievances.

Not for the first time the local Turkish newspapers have raised a general outcry of indignation at the great risks and dangers resulting to the public from the deplorable sanitary and hygienic conditions of the capital. Never, however, was the protest so persistent and energetic as at present. Special attention is drawn this time to the public baths at Haidar Pasha. These baths are constructed quite near the drainage canalisation that empties the sewage of the district into the sea. The same condition obtains at Moda, a neighbouring summer resort much patronised by the upper classes. Another great grievance is that the railway stations, the tramcars, the tunnel leading from Galata, the business quarter, to Pera, the landing places, the Golden Horn, and the fish markets, are, one and all, dangerous sources of offence. In spite of all this, the municipal authorities seem to continue in their old ways of indolence and negligence. They have not dreamt of appointing sanitary inspectors, nor of applying the necessary sanitary and hygienic measures. The refuse that accumulates in the streets makes their condition most offensive. It is argued, I think, justly, that instead of thinking of the embellishment and enlargement of the capital, the municipal authorities would do much better to consider, first and foremost, the public health, and to take in hand energetically the more imperative work of the sanitation of Constantinople in order to save the population from the frequent recurrence of epidemics. It is expected, however, at least in some quarters, that matters will greatly improve in the immediate future. Some energy is already being shown. Thus a special commission was appointed a few weeks ago to examine chemically the drinking-water of Derkos and Taxim. The report of this commission is now ready. These water sources have been found seriously polluted. The system of their distribution is antiquated and utterly bad, leakage having been detected in several places, and probably typhoid fever is largely due to the consumption of these waters. Another source of infection is the water-supply of Kirk-Tchesmé, which meets the needs of a large section of the population. The water is in itself of a very good quality, but its pipes frequently pass under private houses and other buildings in such a way that they seem bound to communicate with the drainage system.

Cocaine.

Under the old *régime* such drugs as cocaine were not allowed to be imported into Turkey. They were only secretly brought in and obtained with considerable difficulty. This prohibition upon cocaine has now been removed, and the drug can be freely imported into Turkey. The same will follow, it is expected, in connexion with other similar drugs.

The Health of Abdul Hamid.

It appears that the deposed Sultan is in a very poor state of health. He seems to suffer from a peculiar swelling in his neck the nature of which has not yet been determined. He has, it is said, no confidence in the medical men attached to him. He also suffers mentally, almost never sleeps, and takes very little food. It is believed that the tropical heat at present prevailing at Salonika acts on the ex-Sultan, accustomed to the cool shades of his former Yildiz residence, in a very depressing manner.

Sept. 1st.

Medical News.

FOREIGN UNIVERSITY INTELLIGENCE.—*Amsterdam:* Dr. G. A. v. Rynberg, Extraordinary Professor of Physiology and Assistant to Professor Luciani in Rome, has been appointed to the Chair of Physiology. With the exception of a short period during which he was assistant to Professor Winkler in Amsterdam, the whole of the new professor's student and professional life has been spent in Italy. Dr. W. M. de Vries, assistant to Dr. Straub, professor of ophthalmology, has been appointed Professor of Pathological Anatomy.—*Berlin:* Dr. Leo Langstein, *privat-docent* of Pædiatry, has been granted the title of Professor. Dr. Oskar Wagener, Assistant to Professor Passow, has been recognised as *privat docent* of Otology.—*Budapest:* Dr. Arthur von Sarbó, *privat-docent* of Neurology, has been promoted to an Extraordinary Professorship.—*Innsbruck:* Dr. Alfred von Decastello has been recognised as *privat-docent* of Medicine.—*Lembery:* Dr. Iquaz Szyszylowicz, *privat-docent* of Anatomy, has been promoted to an Extraordinary Professorship.—*Marburg:* Dr. Rieländer, *privat-docent* of gynæcology, has been granted the title of Professor.—*Naples:* Dr. G. Pianese has been appointed Extraordinary Professor of Pathological Histology.—*Padua:* Dr. Bartolo Vasoin has been recognised as *privat-docent* of Medical Pathology.—*Palermo:* Dr. Carlo Pantaleoni has been recognised as *privat-docent* of Operative Medicine.—*Parma:* Dr. Giorgio Pardo of Rome has been recognised as *privat-docent* of Psychiatry.—*Prague (German University):* Dr. Otto Grosser, Extraordinary Professor of Anatomy in Vienna, has been appointed Professor of Anatomy.—*Vienna:* Dr. Adolf Jolles has been granted the title of Professor on account of his researches on the Chemistry of the Urine.

UNIVERSITY OF LONDON: ST. THOMAS'S HOSPITAL MEDICAL SCHOOL.—Mr. D. C. Thomas and Mr. P. G. S. Davis have been awarded two arts scholarships at the entrance examination. The University Scholarship was

won by Mr. W. M. Oakden (Cambridge). The Science Scholarships were won by Mr. A. R. C. Doorly and Mr. Norman P. Lumb, both of St. Thomas's Hospital Medical School. The Epsom Scholarship has been awarded to Mr. O. D. Brownfield, the City of London School Scholarship to Mr. G. A. Bird, and the Merchant Taylors' Scholarship to Mr. G. T. Gimlette.

UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL.—The opening ceremony of this school will take place on Oct. 1st, at 3 P.M., in the library, and not on Oct. 4th as previously announced. Sir John Tweedy will deliver an introductory address. The annual dinner of past and present students will be held at the Gaiety Restaurant on the same day at 7 for 7.30 P.M., Mr. Alfred Pearce Gould being in the chair.

GUY'S HOSPITAL MEDICAL SCHOOL.—The inauguration of the medical session will be marked by the opening meeting of the Guy's Physical Society, which will take place on Oct. 7th, at 8 P.M., Dr. Frederick Taylor being in the chair. Sir Hector Cameron will deliver an address on a Plea for the Treatment of Abscess by Lister's Antiseptic Method. The address will be preceded by a dinner at 6.30 with Mr. Cosmo Bonsor in the chair, which all present and past Guy's men are invited to attend.

CONFECTIONERS' AND BAKERS' EXHIBITION.—This exhibition was opened on Sept. 4th at the Agricultural Hall, Islington, London, and will remain open for a week, so that our readers will have a chance of inspecting it to-day (Friday, Sept. 10th) and to-morrow. It is an exhibition of flour, bread, and cake making and the confectioner's art, and of apparatus and appliances used in these trades which are supplied by "bakers' fitters," engineers, and coachmakers. To encourage the production of high-class flour from English wheat prizes are being offered and bakers are being trained at the School for Bakers and Confectioners carried on at the Borough Polytechnic. Several flour mills exhibit sacks of their wares and they call attention to the scrupulously clean garb in which their material is distributed, while thousands of loaves have been sent in for competition in breadmaking. The Hovis firm have a large display of loaves entered for competition by various bakers who hope to win the silver cups, bakers' barrows, or the championship van and horse which the firm is presenting to those bakers who send in the best loaves made with Hovis flour. The motor-car, by the way, does not seem yet to be much in favour with bakers, possibly because of the characteristic smell of some types of car. Bananine, Cytos, and other makes of bread are also shown, and engineers are exhibiting various types of patent ovens at work baking sample loaves for public inspection, while bakers' fitters show ingenuity in their displays of tins, moulds, cutters, glassware, and thermometers. Cake-making seems now to be a fine art, for many of the large number of exhibits show extraordinary ingenuity and taste in artistic design and colouring. The confectioner also apparently intends to attempt to decorate our walls, for in this exhibition he has produced hunting scenes, seascapes, and other views which are remarkably effective, and he is also competing with plastic artists, as is shown by models of many subjects allegorical and utilitarian, while some of the shortbreads and cakes in the shape of plaques or medallions ornamented with bunches of many coloured flowers and tinted fruits in high relief really ought to give employment to the picture-frame maker rather than be eaten. One could not consume what had taken so much trouble to make without a feeling of regret. Icing also is now a fine art, as could be seen from a wedding cake of many tiers which consisted of decorative and modelling work of surprising skill. The exhibitions of fruit modelled in marzipan and almond paste are in some cases so lifelike as to deceive the observer, and the models in chocolate exhibited by Sarotti of Berlin in reproduction of the Tower Bridge, "Little Red Riding Hood," the cockchafer's garden party, Teddy bears, and of all manner of toys, fruits, and animals, show extreme ingenuity. Messrs. Pink have a fine show of jams, jellies, and sweetmeats, and Messrs. Paul of mineral waters. Other exhibits are of Horlick's malted milk, Mackintosh's toffee, Gordon and Dilworth's tomato catsup, and of Danysz virus for exterminating rats and mice, a reminder that there are unpleasant things even in a fine art baker's and confectioner's life. To the engineer also no little credit is due for his work in connexion with the baking trade, and among many machines, which we do not try to enumerate, the mixing and kneading machines of Messrs. Werner, Pfleiderer and Co. were particularly noticeable.

AUSTRALIAN STUDENTS AND THE ORIENT LINE.—It was recently announced that the Orient Line had granted free first-class tickets between Australia and England to selected scholars of the Australian Universities, and the three first nominations have now been made by the Chancellor of the Sydney University. Mr. H. J. Swain, Science Research Scholar; Mr. S. G. Lusby, Barker Mathematical Scholar; and Mr. H. K. Archdale, Woolley Classical and Philosophical Scholar, who have been selected, will travel to England by the R.M.S. *Omrah*.

THE NORFOLK AND NORWICH HOSPITAL.—The King has subscribed 250 guineas towards the Norfolk and Norwich Hospital extension scheme. The total of the subscriptions which have been received or promised for that purpose now amounts to £12,000, and public interest in the locality is being aroused to the necessity of the proposed new buildings. Amongst the larger contributors the Duke of Norfolk has given £1000 towards the ophthalmic block and Mr. E. Gurney and Mr. S. Gurney £1000 each for endowment.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Otto v. Bollinger, professor of pathological anatomy in the University of Munich and during the present year rector of the University, from heart disease, which had only manifested itself a few weeks previously. The deceased professor was born in the Rheinpfalz in 1843 and studied in Munich, Berlin, and Vienna. Soon after being qualified the Franco-German war broke out and he went through the campaign as surgeon with the Bavarian forces. After the war he was appointed to the professorship of pathology, dealing more especially with diseases which are communicated from the lower animals to human subjects, such as anthrax and actinomycosis. Indeed, the discovery of actinomyces is due to him. He was also a great advocate of temperance and his work on the "Munich Beer Heart" is looked upon with great favour by teetotalers and indeed by all advocates of moderation.—Dr. Elias Haffter, a former president of the Swiss Medical Association, editor of the well-known *Korrespondenzblatt für Schweizer Aerzte*, aged 58 years.—Dr. E. B. Fullerton, professor of materia medica and therapeutics in the Starling-Ohio Medical College, Columbus.—Dr. Santi Sizena, professor of pathological anatomy in Palermo.—Dr. H. Lossen, honorary professor of surgery in Heidelberg.—Dr. Antonio Curci, professor of pharmacology in the Medical School of Catania.—Dr. Leopold Perl, Privy Medical Councillor of Berlin, whose researches in experimental pathology and in hygiene gained him a much respected position amongst the *privat docenten* of the University. His age was 64 years.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Asylum Officers' Superannuation Bill.

THE Asylum Officers' Superannuation Bill has passed through all its stages in the House of Commons. Efforts are being made to secure its speedy passage through the House of Lords. For this purpose a deputation composed of medical men and members of the Asylum Workers' Association was introduced to the LORD CHANCELLOR by Sir JOHN JARDINE, M.P., on Sept. 1st. The members of the deputation explained the necessity for the Bill, and received a sympathetic reply from the LORD CHANCELLOR.

The Health of the Troops in India.

The return recently ordered by the House of Commons on the motion of Sir WILLIAM COLLINS concerning the prevalence of certain specified diseases amongst the troops in India has been issued as a Parliamentary paper. The diseases included in it are enteric fever, cholera, plague, and small-pox, and the statistics are given for each of the years in the period 1900–1908. The British troops are dealt with separately from the native army.

The Hospitals Bill.

Mr. JEREMIAH MACVEAGH'S Hospitals Bill, which is designed to empower local authorities to strike a rate in aid of local hospitals, is "backed" by Sir ALFRED THOMAS, Mr. ARTHUR HENDERSON, Mr.

EUGENE WASON, and Mr. YOUNGER. There are only two operative clauses in the Bill. The text is as follows:—

"Clause 1. From and after the passing of this Act it shall be lawful for any district council, parish council, corporation, board of town commissioners, county council, or other rating authority to strike a rate not exceeding threepence in the pound on the valuation towards the erection or maintenance of any hospitals situated within the area of charge.

"Clause 2. The allocation of any rates so levied shall be subject in England and Wales to the approval of the Local Government Board, in Ireland to the approval of the Local Government Board for Ireland, and in Scotland to the approval of the Local Government Board for Scotland."

The Oaths Bill.

The Oaths Bill, which is intended to promote the taking of the oath in the Scotch fashion, has been read a third time by the House of Commons.

HOUSE OF COMMONS.

WEDNESDAY, SEPT. 1ST.

Dangers of Tuberculosis in Schools.

Mr. LYELL asked the Lord Advocate whether his attention had been called to the giving of instruction in singing and other subjects to children in Kirriemuir by a teacher suffering from tuberculosis; and whether, in view of the danger of tuberculosis being communicated to the children, the Scottish Education Department was prepared to take any action in the matter.—Mr. URE replied: The Department has no official knowledge of the circumstances referred to, but in any case the matter is one which is entirely within the province of the school board to deal with, either on its own motion or at the instance of the public health authority of the district.

Mr. LYELL: In view of the great danger to the children concerned is it not possible for the Scotch Office to take some steps in the matter?—Mr. URE: No, Sir, I think not.

THURSDAY, SEPT. 2ND.

West Ham Inquests.

Mr. TYSON WILSON asked the President of the Local Government Board whether he was aware that the coroner for West Ham, on Monday, August 30th, held inquests on five children whose ages ranged from three months to six years; that in each instance a verdict of died from consumption was returned; whether he could state whether the houses in which those children had lived had been recently inspected by the sanitary inspector; and, if so, what condition were they in; and, if they had not been inspected, would he make inquiries with the object of ascertaining what their sanitary condition was.—Mr. BURNS answered: I have seen a newspaper reference to the inquests referred to, and am making inquiries into the matter.

Hospital Bequests and the Legacy Duty.

Mr. MURRAY MACDONALD asked the Chancellor of the Exchequer whether he was aware that in Ireland all legacies to hospitals and other charities were exempt from legacy duty; and whether, in view of the increasing difficulty of finding money to manage hospitals, he would insert in the Finance Bill a provision extending this exemption to Great Britain.—Mr. HOBHOUSE (Financial Secretary to the Treasury) replied: The answer to the first part of my honourable friend's question is in the affirmative. My right honourable friend the Chancellor of the Exchequer regrets that he cannot see his way to accept the suggestion contained in the latter part of the question.

The Tuberculosis Order of 1909.

Mr. FIELD asked the honourable Member for South Somerset, as representing the President of the Board of Agriculture, whether tuberculosis was included in the diseases scheduled in the Contagious Diseases (Animals) Act; whether he could state under what section of the Contagious Diseases (Animals) Act, or Amendments thereof, the Board had power to call upon local authorities to provide compensation for slaughtered tuberculous cows; and whether it was still proposed to issue the Tuberculosis Order of 1909, having regard to the fact that the Milk and Dairies Bill had been abandoned.—Sir EDWARD STRACHEY wrote in reply: Tuberculosis is not one of the diseases specifically mentioned in the Diseases of Animals Act, 1894, but the Board has power, under Section 22 (xxxv.) of that Act, to extend the definition of disease, and, under Section 19, it may direct that animals may be slaughtered and compensation paid for them by local authorities out of the local rate. The reply to the last part of the question is in the negative, but the question of the postponement of its operation is under consideration.

MONDAY, SEPT. 6TH.

Shipments of Chinese Pork.

Answering questions put by Mr. FELL and Mr. O'SHAUGHNESSY, Mr. BURNS (President of the Local Government Board) said with regard to shipments of Chinese pork, that he had no power to prevent the entry into this country of entire carcasses of pigs which on examination at the port of entry were found to be sound and free from disease. He doubted whether there would be any advantage as regarded public health in requiring a declaration as to the country of origin in the case of meat derived from carcasses which had satisfied the requirements of the foreign meat and unsound food regulations.

TUESDAY, SEPT. 7TH.

The Late Dr. Lalcaca.

Mr. SIMON asked the Under Secretary of State for India whether His Majesty's Government proposed to take any practical step to show its appreciation of the self-sacrifice of Dr. Lalcaca.—The MASTER of ELIBANK replied: I have already expressed to the House on behalf of the Government its deep appreciation of Dr. Lalcaca's heroic action, and explained that the circumstances of the case are such that appreciation could not appropriately be marked by a money grant to his surviving relatives. I can now add that the Government of Bombay has been authorised to contribute from public funds a sum of £100 to a memorial for which subscriptions are being collected in Bombay.

Plague Mortality in the Punjab.

Mr. REES asked the Under Secretary of State for India, whether the returns of plague mortality in the Punjab during the preceding years indicated that the disease was gradually disappearing; and how last year's death-rate on this account compared with that from small-pox.—The MASTER of ELIBANK answered: The plague mortality in the Punjab in 1908, excluding native States, is given in the most recent returns as 30,708 against 606,686 in 1907. The death-rate from plague in that province in 1908 was 1·53 per 1000; that for small-pox was 1·42 per 1000.

Cholera in Calcutta.

Mr. REES asked the Under Secretary of State for India whether he could communicate to the House the results of the inquiry ordered by the Secretary of State into the outbreak of cholera amongst the hospital nurses at Calcutta.—The MASTER of ELIBANK replied: The Secretary of State has not yet received Mr. Haffkine's full report, but from a preliminary report made by him it appears that the outbreak of cholera was due to infection of the nurses' food by two servants, both in good health, who were found to be unconscious carriers of the bacillus.

BOOKS, ETC., RECEIVED.

APPLETON, D. AND CO., London.
- Tuberculosis. A Treatise by American Authors. Edited by Arnold C. Klebs, M.D. Price 25*s.* net.
- Hæmorrhage and Transfusion. An Experimental and Clinical Research. By George W. Crile, A.M., M.D. Price 21*s.* net.
- The Diseases of Infancy and Childhood. By L. Emmett Holt, M.D., Sc.D., LL.D. Fifth edition, revised and enlarged. Price 25*s.* net.

ARNOLD, EDWARD, London.
- Elementary Physiology for Teachers and Others. By W. B. Drummond, M.B., C.M., F.R.C.P. Edin. Price 2*s.* 6*d.*

BALE (JOHN), SONS, AND DANIELSSON, LIMITED, London.
- Jejunal and Gastrojejunal Ulcer following Gastrojejunostomy. By Herbert J. Paterson, M.A., M.B., B.C. Cantab., F.R.C.S. Eng. Price 2*s.* 6*d.* net.
- Household Pests and Household Remedies. By W. R. Boelter. Price 2*s.* 6*d.* net.

CHICAGO MEDICAL BOOK COMPANY, Chicago, Ill., U.S.A.
- The Arteries of the Gastro-Intestinal Tract with Inosculation Circle. By Byron Robinson, B.S., M.D. Price not stated.

CHURCHILL, J. AND A., London.
- Text-book of Embryology. By Frederick Randolph Bailey, A.M., M.D., and Adam Marion Miller, A.M. Price 21*s.* net.

CLARK, R. AND R., LIMITED, Edinburgh.
- Clinical Studies. By Byrom Bramwell, M.D., F.R.C.P.E., F.R.S.E. Vol. VII. Price not stated.

DEUTICKE, FRANZ, Wien und Leipzig.
- Gewerbehygiene für Österreichische Amtsärzte, Physikatskandidaten, Verwaltungsbeamte und Gewerbeinspektoren. Mit Einschluss der einschlägigen gesetzlichen Bestimmungen, Erlässe und Entscheidungen. Von Dr. Josef Rambousek. Price K. 12.

ENGELMANN, WILHELM, Leipzig.
- Anatomische und Entwicklungsgeschichtliche Monographien. Herausgegeben von Professor Wilhelm Roux. I. Heft. Das Gehirn des Chemikers D. J. Mendelejew. Von Professor W. von Bechterew und Professor R. Weinberg. Mit einem Bildniss Mendelejews und acht Tafeln. Price M.7.
- Gegenbaur's Lehrbuch der Anatomie des Menschen. Achte umgearbeitete und vermehrte Auflage. Von M. Fürbringer. Erster Band. Price, paper, M.18; bound, M.20.50.

FROWDE, HENRY, London.
- The Treatment of Disease. The Address in Medicine before the Ontario Medical Association, Toronto, June 3, 1909. By William Osler, M.D., F.R.S. Price 1*s.* net.

GRANT EDUCATIONAL COMPANY, LIMITED, Glasgow.
- Round about Morocco and the Canaries. By John Wright, M.B., C.M. Price not stated.

HODDER AND STOUGHTON, London.
- Religion and Health. By Len G. Broughton, M.D., D.D. Price 1*s.*

KABITZSCH, CURT (A. STUBER'S VERLAG), Würzburg.
- Nahrungsmitteltabelle zur Aufstellung und Berechnung von Diätverordnungen. Für Krankenhaus und Praxis. Von Dr. Hermann Schall und Dr. August Heisler. Price M.1.80.

KARGER, S., Berlin.
- Jahrbuch für Kinderheilkunde und physische Erziehung. Unter Redaktion von O. Heubner, A. Steffen, Th. Escherich. 70 der dritten Folge. 20 Band. Heft 3. Ausgegeben am 1 September, 1909. Price not stated.

KLINKHARDT, Dr. WERNER, VERLAG VON, Leipzig.
- Weitere Untersuchungen an Geisteskranken mit psychomotorischen Störungen. Von Privatdozent Dr. Karl Kleist. Price, paper, M.7.60; bound, M.9.
- Bau und Entwickelung der Mundhöhle des Menschen unter Berücksichtigung der vergleichenden Anatomie des Gebisses und mit Einschluss der speziellen mikroskopischen Technik. Lehrbuch für Zahnärzte, Aerzte und Studierende. Von Privatdozent Dr. Guido Fischer. Price, paper, M.16.; bound, M.17.30.
- Jahresbericht über die Fortschritte der Inneren Medizin im In- und Auslande. Redaktion: Dr. Schreiber und Dr. Rigler. Bericht über das Jahr 1908. I. Band. Price, paper, M.15.60.
- Handbuch der gesamten medizinischen Anwendungen der Elektrizität, einschliesslich der Röntgenlehre. Herausgegeben

von Prof. Dr. med. H. Boruttau und Prof. Dr. med. L. Mann. Mitherausgeber für den Röntgenband: Prof. Dr. med. M. Levy-Dorn und Prof. Dr. med. P. Krause. Band I. Price, paper, M.30; bound, M.32.50.

LAURIE, T. WERNER, London.

Psychical Science and Christianity. A Problem of the XXth Century. By E. Katharine Bates. Price 6s.

New Ideals in Healing. By Ray Stannard Baker. Price 2s. 6d. net.

LONGMANS AND CO., London; B. QUARITCH, London; DULAU AND CO., London; and BRITISH MUSEUM (NATURAL HISTORY), London.

Illustrations of African Blood-Sucking Flies other than Mosquitoes and Tsetse-Flies. By Ernest Edward Austen. Price not stated.

LONGMANS, GREEN, AND CO., London, New York, Bombay, and Calcutta.

Intemperance. By Henry Horace Pereira, Bishop of Croydon. Price 2s. 6d. net.

MURRAY, JOHN, London.

An Essay on the Making of Gardens. By Sir George Sitwell, Baronet. Price 5s. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.

BLACKBURN, ALBERT EDWARD, M.R.C.S. Eng., has been appointed a Medical Referee under the Workmen's Compensation Act, 1906, for County Court Circuit No. 2, and to be attached more particularly to Hartlepool County Court.

BRICK, MICHAEL, L.R.C.P. & S. Irel., has been appointed a Certifying Surgeon under the Factory and Workshop Act for the Tralee District of the county of Kerry.

BRYCE, THOMAS H., M.D. Edin., F.F.P.S. Glasg., has been appointed Regius Professor of Anatomy in the University of Glasgow.

CORFIELD, WALTER FRANCIS, M.B., B.S. Lond., has been appointed Medical Officer of Health of Colchester.

EMERSON, J. J., L.R.C.P. & S. Irel., has been appointed a Certifying Surgeon under the Factory and Workshop Act for the Emo District of Queen's County.

FORREST, MARGARET G., M.B. Glasg., has been appointed Assistant Medical Officer at the Bucknall Fever Hospital, Stoke-on-Trent, Staffordshire.

GREIG, C. C., M.B., C.M. Aberd., has been appointed a Certifying Surgeon under the Factory and Workshop Act for the Fyvie District of the county of Aberdeen.

HIGGINS, T. F., L.R.C.P., F.R.C.S. Irel., has been appointed a Certifying Surgeon under the Factory and Workshop Act for the Stradbally District of Queen's County.

LEA, JAMES, M.B., B.C. Cantab., has been appointed a Certifying Surgeon under the Factory and Workshop Act for the Chorley District of the county of Lancashire.

MCFARLAN, WILLIAM MOREHEAD, M.D., Ch.B. Edin., has been appointed District Medical Officer by the Basingstoke (Hants) Board of Guardians.

MARNOCH, JOHN, M.B., C.M. Aberd., has been appointed Regius Professor of Surgery in the University of Aberdeen.

MINCHIN, PAGET DUNDAS, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of Health of the Rural District of Repton, Derbyshire.

MORISON, ALBERT EDWARD, M.B., F.R.C.S. Edin., has been appointed a Medical Referee under the Workmen's Compensation Act, 1906, for County Court Circuit No. 2, and to be attached more particularly to Sunderland and Seaham Harbour County Courts.

MULLANY, PATRICK, L.R.C.P. & S. Irel., has been appointed a Certifying Surgeon under the Factory and Workshop Act for the Kilmakevoge District of the county of Kilkenny.

MUSSELLWHITE, WILLIAM, M.R.C.S. Eng., L.R.C.P. Lond., has been re-appointed Medical Officer of Health of Spennymoor Urban District, Durham.

PRICE, DAVID REES, M.B., C.M. Edin., has been re-appointed Medical Officer of Health of Ammanford, Carmarthenshire.

SUTHERLAND, HALLIDAY G., M.D. Edin., has been appointed Medical Superintendent of the Westmorland Sanatorium, Grange-over-Sands.

WALLACE, D., M.B., C.M. Edin., M.R.C.S. Eng., F.R.C.S. Edin., has been appointed a Certifying Surgeon under the Factory and Workshop Act for the Creetown District of the county of Kirkcudbright.

WELLS, J. E. B., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed a Certifying Surgeon under the Factory and Workshop Act for the Hoddesdon District of the county of Hertford.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRMINGHAM EAR AND THROAT HOSPITAL, Edmund-street.—House Surgeon for six months. Salary at rate of £70 per annum, with board, lodging, and washing.

BIRMINGHAM, QUEEN'S HOSPITAL.—Two House Physicians, also one Obstetric and Ophthalmic House Surgeon, all for six months. Salaries at rate of £50 per annum, with board, lodging, and washing.

BOLTON INFIRMARY AND DISPENSARY.—Junior House Surgeon. Salary £100 per annum, with apartments, board, and attendance.

BRADFORD POOR-LAW HOSPITAL AND WORKHOUSE.—Assistant Resident Medical Officer, unmarried. Salary £130 per annum, with rations, apartments, and laundry.

BRISTOL ROYAL INFIRMARY.—Resident Casualty Officer for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

CAMBRIDGE UNIVERSITY, PATHOLOGICAL LABORATORY.—John Lucas Walker Studentship. Value £200 per annum.

CANCER HOSPITAL, Fulham-road, London, S.W.—House Surgeon. Salary £70 per annum. Also Anæsthetist. Salary 25 guineas per annum.

CANTERBURY, KENT AND CANTERBURY HOSPITAL.—Assistant House Surgeon, unmarried. Salary £70 per annum, with board and lodging.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn-road, W.C.—House Surgeon. Salary at rate of £50 per annum, with board and residence.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.—Honorary Registrar.

CHELTENHAM GENERAL HOSPITAL.—Surgeon-in-Charge of the Branch Dispensary, unmarried. Salary £80 per annum, with board and lodging.

CITY OF LONDON LYING-IN HOSPITAL, City-road, E.C.—Resident Medical Officer for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

COLCHESTER, ESSEX COUNTY HOSPITAL.—House Physician. Salary £80 per annum, with board, residence, and washing. Also House Surgeon. Salary £80 per annum, with board, washing, and residence.

CORK COUNTY SANATORIUM.—Resident Medical Superintendent. Salary £250 per annum, with board, residence, and laundry.

COVENTRY, CITY OF.—Assistant Medical Officer of Health. Salary £300 per annum.

DEVON COUNTY ASYLUM.—Third Assistant Medical Officer. Salary £140, with board, apartments, and laundry.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—Assistant House Surgeon. Salary £55 per annum, with board and lodging.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge-road, London, S.E.—House Surgeon. Salary at rate of £60 per annum, with board, residence, and washing. Also Clinical Assistants.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway, N.—Resident Medical Officer. Salary £120 per annum, with board, lodging, and washing. Also Senior House Surgeon, Senior House Physician, Junior House Physician, and two Junior House Surgeons, all for six months. Salary of Senior Officers at rate of £45 per annum, and of Junior Officers at rate of £35 per annum, with board, lodging, and laundry.

GREENOCK INFIRMARY.—Assistant House Surgeon. Salary £40 per annum, with board and residence.

GUILDFORD, ROYAL SURREY COUNTY HOSPITAL.—House Surgeon. Salary £100 per annum, with board, residence, and laundry.

HALIFAX, ROYAL HALIFAX INFIRMARY.—Third House Surgeon, unmarried. Salary £80 per annum, with residence, board, and washing.

INVERNESS, NORTHERN INFIRMARY.—House Surgeon. Salary £100 per annum, with board, &c.

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL.—House Surgeon. Salary £65 per annum.

JERUSALEM, BRITISH OPHTHALMIC HOSPITAL.—Assistant Surgeon. Salary £300, with house.

LONDON COUNTY COUNCIL.—Medical Officer to certain Employees in the Borough of Lewisham.

LOWESTOFT HOSPITAL.—House Surgeon, unmarried. Salary at rate of £100 per annum, with board, lodging, and washing.

MANCHESTER AND SALFORD HOSPITAL FOR SKIN DISEASES.—House Surgeon. Salary £75 per annum, with board and residence.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—Resident Medical Officer, unmarried. Salary for the first six months £40, and for the second six months £50.

MANCHESTER ROYAL INFIRMARY.—Resident Surgical Officer. Salary £150 per annum, with board and residence.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—House Physician, House Surgeon, Assistant House Physician, and Assistant House Surgeon, all for six months. Salary of two former at rate of £40 per annum, and of two latter at rate of £20 per annum. Also Resident Anæsthetist. Salary at rate of £80 per annum. Also Assistant Physician.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead.—Senior and Junior Resident Medical Officers. Salary of former £100, and of latter £50 per annum, with board and residence.

NEWCASTLE-ON-TYNE DISPENSARY.—Visiting Medical Assistant. Salary £160 per annum.

NEWPORT (MON.) COUNTY BOROUGH.—Medical Inspector of Schools and Assistant Medical Officer of Health. Salary £250 per annum.

NOTTINGHAM GENERAL DISPENSARY.—Two Assistant Resident Surgeons, unmarried. Salary £160 each, with apartments, attendance, light, and fuel.

NOTTINGHAM WORKHOUSE INFIRMARY.—Assistant Resident Medical Officer, unmarried. Salary £130 per annum, with apartments, board, washing, and attendance.

OLDHAM INFIRMARY.—Third House Surgeon. Salary £80 per annum, with residence, board, and laundry.

PLAISTOW HOSPITAL FOR INFECTIOUS DISEASES, London, E.—Junior Assistant Medical Officer for six months. Salary at rate of £100 per annum, with all found.

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House Physician. Salary £75 per annum, with board, residence, and washing.

PRESTWICH INFIRMARY AND WORKHOUSE.—Assistant Medical Officer. Salary £140 per annum, with apartments, rations, &c.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—Resident Medical Officer. Salary £100 per annum, with board, residence, and washing.

READING, ROYAL BERKSHIRE HOSPITAL.—House Physician, also Assistant House Surgeon. Salaries respectively £80 and £60 per annum, with board, lodging, and washing.

ROBERT BROWNING SETTLEMENT, Walworth, S.E.—Honorary Assistant to the Superintendent of Medical Work among the Poor.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House Surgeon. Salary £80 per annum, with rooms, commons, and washing.

ROYAL EAR HOSPITAL, Soho.—Non-resident House Surgeon for six months. Salary at rate of £40 per annum.

ROYAL EYE HOSPITAL, Southwark, S.E.—Honorary Physician and Honorary Assistant Surgeon, also Refraction Assistant. Salary at rate of £40 per annum. Also Clinical Assistants.

ROYAL GENERAL DISPENSARY, Bartholomew Close, E.C.—Surgeon. Salary £40 per annum.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, London, E.C.—House Physician for six months. Salary at rate of £60 per annum, with board, lodging, and washing.

ROYAL LONDON OPHTHALMIC HOSPITAL, City-road, E.C.—Senior House Surgeon. Salary at rate of £100 per annum, with board and residence.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN.—Junior Resident Medical Officer. Salary at rate of £40 per annum, with board and washing. Also Registrar. Salary at rate of £25 per annum.

ST. PANCRAS, SOUTH INFIRMARY AND WORKHOUSE.—Assistant Medical Superintendent. Salary at rate of £135 per annum, with residential allowances.

SALFORD UNION INFIRMARY, Hope, Pendleton. — Senior Resident Assistant Medical Officer. Salary £150 per annum, with apartments and attendance.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone-road, N.W.—Clinical Assistants.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Junior House Surgeon. Salary £80 per annum, with board, residence, &c.

SOUTH-EAST CHINA, PRESBYTERIAN MISSION HOSPITAL, Swabue.—Medical Officer.

STAFFORD, STAFFORDSHIRE GENERAL INFIRMARY.—Assistant House Surgeon. Salary £82 per annum, with board, residence, and laundry.

STIRLING DISTRICT ASYLUM, Larbert.—Assistant Medical Officer. Salary £125, with board, &c.

WEST NORFOLK AND LYNN HOSPITAL.—House Surgeon. Salary £100 per annum, with board, washing, and lodging.

WESTERN GENERAL DISPENSARY, Marylebone-road, N.W.—Junior House Surgeon. Salary at rate of £80 per annum, with board, residence, and washing.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House Surgeon. Salary £80 per annum, with board, lodging, and laundry. Also Resident Surgical Officer. Salary £125 per annum, with board, lodging, and laundry.

YORK DISPENSARY.—Resident Medical Officer, unmarried. Salary £130 per annum, with board, lodging, and attendance.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Ollaberry, in the county of Shetland; and at North Tawton, in the county of Devon.

Births, Marriages, and Deaths.

BIRTHS.

ADDISON.—On Sept. 7th, at Northwood, the wife of Christopher Addison, M.D., F.R.C.S., of a son.

BIRKBECK.—On August 28th, at Church-square, Taunton, the wife of L. H. C. Birkbeck, M.B., of a daughter.

HARRISSON.—On Sept. 5th, at The Priory, St. Neots, Hunts, the wife of Ernest H. Harrisson, M.A., M.D. Cantab., of a son.

PLUMLEY.—On Sept. 4th, the wife of Cuthbert Plumley, L.D.S. R.C.S. Eng., of a daughter.

ROBBINS.—On August 27th, at Holland-road, Kensington, W., the wife of Reginald H. Robbins, M.D., of a son.

TAYLER.—On Sept. 5th, at Bradford-on-Avon, the wife of G. P. Tayler, M.B. Lond., of a daughter.

THURSTON.—On Sept. 2nd, in London, the wife of E. Owen Thurston, M.B., F.R.C.S., Captain I.M.S., of a son.

MARRIAGES.

CAMPBELL—CLARKE.—On Sept. 2nd, at Marylebone Presbyterian Church, Bryanston-square, Samuel Marcus Dill Campbell, M.D., to Olive Jane, daughter of the late Alfred Owen Clarke.

HARRIS—THOMSON.—On Sept. 2nd, at the Parish Church, Stroud, Herbert Elwin Harris, M.B. Cantab., F.R.C.S. Eng., to Nellie De Winton, daughter of Major-General David Thomson, R.E.

WILSON—CORNER.—On Sept. 2nd, at St. Anne's, Bucks Mills, North Devon, James Alexander Wilson, M.D. Glasg., D.P.H. Camb., to Sara, daughter of the late William Corner.

DEATHS.

HULME.—On August 27th, at Malta, T. Haylock Hulme, M.B. Durh., L.D.S. R.C.S. Eng., aged 33 years.

MACKENZIE.—On Sept. 3rd, at the residence of his son, Dr. Morton Mackenzie, Rose Hill, Dorking, in his 65th year, Sir Stephen Mackenzie, M.D., F.R.C.P., late of Cavendish-square, and for many years Senior Physician to the London Hospital and Consulting Physician to the Royal London Ophthalmic Hospital and the Poplar Hospital for Accidents.

VESEY.—On August 31st, at Knapton, Rostrevor, T. Agmon Vesey, M.D., aged 69 years.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE CONTROL OF KINEMATOGRAPH SHOWS.

ON several occasions we have had to record accidents resulting from fire and panic at kinematograph exhibitions and to ask for stringent regulations to provide against the obvious dangers of film ignition during a performance. Dr. H. D. King, writing in the *Journal of the American Medical Association* of August 14th, discusses another factor in the kinematograph show which he thinks is of definite importance to the public health. It appears that these cheap exhibitions are so popular a feature of American life that "every village and hamlet in the United States boasts its moving picture show. In the large cities in the north and east it is not unusual for a hundred and more to be in operation." But unfortunately a means of cheap amusement for the people that might well be both harmless and edifying suffers from two severe drawbacks—the first in the surroundings, and the second in the nature of the exhibitions. "These cheap theatres are usually located in old rookeries or on poorly paying commercial sites, such as abandoned shops of small tradesmen." The consequence is that the "theatres" are very insanitary in their construction, and are constantly full of vitiated and germ-laden air due to the fact that the performances are continuous so long as an audience is forthcoming, and that as many people as can possibly be jammed into the hall are allowed to attend at one time. Owing to competition the number of films shown for the entrance money has been considerably increased, and it is no uncommon thing for people to sit herded up in a close, unhealthy, darkened atmosphere for an hour and a half at a stretch, whilst the unfortunate operator is condemned to remain in the hottest part of the room as long as the public continues to patronise the show, and the American patrons, we are told, belong to the spitting public. Dr. King gives positive grounds for his assertions. "Robust and vigorous individuals employed as singers and musicians, appearing as often as 12 and 13 times a day in these crowded resorts, soon undergo a remarkable change of health. Poor ventilation produces not only discomfort and loss of energy, but greater susceptibility to disease, especially tuberculosis." He goes on to say that he has treated many of these humble performers, and has found them frequently subject to phthisis. He has seen other ill-effects amongst the constant patrons of these shows, taking the form of ocular irritation and photophobia, which have ceased when they have cut off their kinematographic indulgences. A graver danger to which they are too often submitted is the moral one of witnessing pictures vividly presenting "scandal, illicit amours, and criminal cupidity," which Dr. King considers to be a common source of depravity amongst the frequenters of the cheap moving picture shows in tenement districts. He urges rigid inspection of both buildings and shows, the proper ventilation and cleaning of the rooms, and a limit to the number of daily performances. Probably there is no such urgent need of reform in this country, although the large number of kinematograph "theatres" now springing up in London and our large cities should certainly be supervised on some such rational lines. The Cinematograph Bill, which has been introduced into the House of Commons by the Home Secretary, for securing safety at kinematograph and other exhibitions, has received a third reading, and although it is concerned chiefly with the prevention of fire it is not too much to hope that legislation will in due course be directed towards these other undesirable possibilities of such shows for the sake both of their patrons and their employees. The films exhibited at some of the travelling shows in the country would hardly satisfy the most indulgent of censors, and local police authorities would be well advised to keep an eye on such performances. On the other hand, the kinematograph may be, and generally is, the means of affording a quite wholesome and often instructive entertainment at a very small cost.

A STRANGE EFFECT OF LIGHTNING STROKE.

To the Editor of THE LANCET.

SIR,—Amongst the casualties from lightning on August 25th the following case may be of interest mainly as an illustration of localised effect. Shortly after 11 A.M. a severe storm passed almost directly overhead, accompanied by a very heavy downpour and by, as far as I observed, a single flash of lightning, followed almost immediately by a peal of thunder. A farmer took refuge under some spruce trees forming a line on the southern side of the road, on which he was, and separated from him by a quickset hedge. He also put up his umbrella with the usual metal frame. Without sensation at any other part of the body he suddenly felt as though he had been shot in the foot and imagined that a thunderbolt had fallen upon it. He managed to walk the hundred yards or so to his home and was seen by me about half an hour later. He was then lying on the sofa with a white face, but without other marked symptoms of shock, and was quite able to discuss the particulars of his injury. On examining the left foot the toes were quite livid and cold, the degree of lividity increasing in degree from the great toe to the smallest one. It ceased at the proximal ends, the remainder of the foot looking quite natural. Sensation to touch was not lost, but was

blunted, and, as might be expected, was less as the injury was more marked in testing from the great toe to the fifth. When asked if he was in pain he answered "Yes," but on being questioned described it rather as a feeling of numbness, as if the toes had been crushed. There was some oozing of dark coloured blood from a clean cut wound running along their under surfaces at the junction with the foot. The fairly substantial lace-up leather boot had had the upper torn from the sole and a large rent extended towards the heel on the outer side. The sole had been split into layers, which were forcibly bent downwards to nearly a right angle, leaving the points of the nails worn in the sole bright and shining.

On visiting the scene of the accident the road, which was muddy and very wet after the heavy rain, was strewn with ivy leaves over a strictly localised area of a few yards. There was no other indication of the occurrence on it. On looking up at the trees I found that several of them were covered with ivy for a considerable distance up the trunk. On one patches of bark a few inches wide had been stripped off in a linear direction from rather high up to half-way or so down the trunk. The lightning had evidently run down this particular tree amongst the others to the man's foot, possibly through the conduction of the umbrella, attracted by the hobnails in his boot. As the extent of the injury was less than that of the nails, it is possible that the fore part of the sole was slightly raised from the ground, leaving the hobnails less covered anteriorly. The general effect on foot and boot was that of an explosive force acting from between the two, bending the sole downwards and the toes upwards and escaping towards the outer side, much as might happen had a piece of dynamite been placed between the two.

I am, Sir, yours faithfully,

G. MERVYN SYDENHAM.

Chelwood Gate, Uckfield, August 27th, 1909.

"THE ELUSIVE ETHER."

As bearing upon our leading article under the above heading in last week's issue, Dr. Hugh Woods has forwarded us a copy of his book upon "Æther: a Theory of the Nature of Æther and of its Place in the Universe," published in 1906. Though he admits to writing with some diffidence on the subject, his views coincide remarkably well with those quite recently expressed by leading physicists and chemists. The very last sentence in the book is worth quoting as being almost word for word the same as one which occurred in Sir J. J. Thomson's recent presidential address to the British Association for the Advancement of Science at Winnipeg. It runs as follows:—"They (i.e., men) are only now beginning to suspect the existence of æther, which causes the earth to move and which is even more essential to life than the very air that we breathe." Sir J. J. Thomson said: "The ether is not a fantastic creation of the speculative philosopher; it is as essential to us as the air we breathe."

FOREST FIRES AND THEIR SEQUELÆ.

"ONE has to reside in Italy," writes an Italian correspondent, "to realise the bitterness with which all who are interested in the country's future receive the announcement of yet another tract of woodland reduced to ashes. At a time when her Legislature, stimulated by congresses, provincial and national, convened to accelerate the reafforestation so vital to her health and to her internal economy (let alone her amenity), is passing measures *ad hoc*, reorganising the police service for the prevention of reckless tree-felling and subsidising local efforts at replanting, we read of the magnificent forest on the Ligurian Riviera—known as the Spotorno—having all but disappeared in the flames. The cause, as usual, is still to seek, but many are ascribing it to the criminally thoughtless habit of picnic parties leaving glass-bottles, whole or in fragments, littering the grass beneath the shadow of the trees and so, under the dog-day heat, inviting the ignition of the arid herbage or fallen foliage and starting a conflagration which only ceases with the consumption of the timber itself. The peasantry living near it—between Noli and Bergeggi—fled in panic before the devouring flames, their cattle, oxen, sheep, asses, and mules joining in the stampede, as the noble trees collapsed with a roar, and the air was one dense mass of smoke and scintillating sparks, making respiration difficult with acrid asphyxiating vapour. From Savona came the fire-brigade with two companies of the 16th Regiment of the line, followed by numerous carabineers and the *personnel* of the Croce d'Oro and the Croce Bianca; and from the evening till the morning the efforts at extinguishing the flames, dangerous as well as laborious, proceeded without a pause—all engaged, 'pompieri,' soldiers, carabineers, and amateurs, risking their lives in relieving each other as party after party had to fall back from the heat and the scorching ashes driven in their faces by the high wind. 15 hours did they persevere but with small result, the fire dying out from exhaustion of fuel as much as by the jets of water thrown upon it. The loss, according to the latest account, is estimated at 'molte cento mila lire' (many hundred of thousands of francs), but the disappearance of the timber is only the first of the disasters. The sequelæ will be felt for a generation yet to come in the many ways in which Nature resents the violent destruction of her products—particularly those that give clothing to the hillsides, gradual evaporation to the atmosphere, regular rainfall, and water-supply to the rivers. Reduced from forest growth to prairie, the soil degenerates and, as was pointedly put in evidence at the late congress at Bologna, becomes a source of atmospheric taint which in turn becomes the food of those pests of autumnal Italy—the flies. Before such consequences the injury to the amenity of the region would be of minor account were it not that the said amenity, especially on her Riviera, is one of Italy's assets, attracting the visitor and bringing custom to her industries and trades. The goddess Monesta has thus her own reasons for joining in the wail of her sister Hygiea over the destruction of the woods, a wail caught up (one may fancy!) by the Hamadryad driven from her haunts and by the Naiad robbed of the element which her sister of the forest supplies!"

WANTED—A SCHOOL.

To the Editor of THE LANCET.

SIR,—I should be much obliged if any of your readers could give me information or let me know where I might get the necessary information on the following. I have a patient, a girl, 18 years of age, who is backward so far as general education is concerned on account of a fairly marked deafness which has existed since infancy, and would like to hear of some boarding school in this country where she would have careful supervision and guidance with her lessons—the subjects desired being mainly English, elocution, music, and painting. She is quick mentally, but not over-strong physically, so that the climate must not be of a rigorous nature. I am, Sir, yours faithfully,

Sept. 7th, 1909. INQUIRER.

THE HARRIS FUND.

SIR,—Referring to our previous letter to you which was published on p. 430 of THE LANCET of August 7th, 1909, we should be very grateful if you would kindly publish in your columns the list of contributions subsequently received:—

	£	s.	d.
Mr. F. Vacher	1	1	0
Anonymous Donor... ...	10	10	0
Dr. Arthur Whitfield ...	2	2	0
Dr. Herbert Peck	1	1	0
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Total received to date	£167	13	0

We are very much indebted to all donors for their kind contributions. Further contributions will be acknowledged in due course.

We are, Sir, yours faithfully,

CARL PRAUSNITZ.
N. H. TURNER.

35, Highbury-grove, London, August 30th, 1909.

THE PUBLICATION OF ORIGINAL SCIENTIFIC WORK.

IN *Science* of August 6th Mr. W. J. Humphreys urges the importance of publishing the results of scientific investigations and lays stress on the need of choosing the proper medium for the purpose. Dubera first published a method for detecting the presence of objects beyond the highest power of the microscope as ordinarily used, but for more than 20 years the world knew nothing of his discovery, because it appeared in a journal devoted to engineering and so escaped the attention of biologists. Indeed, his method only became known through the publication in another medium of its description by another worker who had re-discovered it. As Mr. Humphreys says: "To him that discovers let honour be given, for he is a genius; but to him that discovers and publishes let there be given double honour, for he is a genius that has done unto others as he would have others do unto him. ..... To discover is the scientist's reward; to publish is his duty." It is, perhaps, doubtful whether at the present time the general body of scientific workers needs much encouragement to publish. At the recent meeting of the British Association for the Advancement of Science at Winnipeg, Man., on August 26th, Professor Armstrong, president of the chemical section, regretted the growing tendency towards the premature announcement of incipient or alleged scientific discoveries. Careful observers of the scientific and technical press have no difficulty in perceiving that, to adapt an American expression, there is a "get-quick-famous" class whose methods are as reprehensible in their way as are those of the "get-quick-rich" variety, and premature or needless publication is the easiest and most popular means whereby to attempt to win fame.

A. C. K. has not sent his name and address.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Sept. 9th, 1909.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Sept. 3	30·22	W.	...	120	70	48	50	53	Fine
,, 4	30·06	S.W.	...	76	65	53	56	59	Cloudy
,, 5	29·94	N.W.	0·22	115	64	51	57	60	Cloudy
,, 6	29·78	S.W.	...	112	70	55	59	61	Cloudy
,, 7	29·62	W.	...	106	63	52	52	56	Cloudy
,, 8	29·87	N.W.	0·02	94	55	46	47	51	Fine
,, 9	30·12	N.E.	0·13	110	59	51	51	53	Cloudy

Medical Diary for the ensuing Week.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—College reopens.
TUESDAY.—4 P.M., Dr. R. Hutchison: Clinique (Medical).
WEDNESDAY.—4 P.M., Mr. Arthur Edmunds: Clinique (Surgical).
THURSDAY.—4 P.M., Sir Jonathan Hutchinson: Clinique (Surgical).
FRIDAY.—4 P.M., Dr. William Hill: Clinique (Ear, Nose and Throat).

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (13th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.).

TUESDAY (14th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College 2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

WEDNESDAY (15th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan 9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

THURSDAY (16th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, (9 A.M., Major, 2 P.M.).

FRIDAY (17th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.) Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.), Central London Throat and Ear (Minor 9 A.M., Major, 2 P.M.).

SATURDAY (18th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

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It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

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Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

The Index to Vol. I. of 1909, which was completed with the issue of June 26th, and the Title-page to the volume, were given in THE LANCET of July 3rd.

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